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THE SETTLEMENTS OF THE TZAPOTEC AND MIJE INDIANS

STATE OF OAXACA, MEXICO

BY

OSCAR SCHMIEDER



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PREFACE

The field observation and archive studies upon which this paper is based were carried out during the second half of the year 1929. For the purpose, the University of California gave me a sabbatical leave and a grant from the research funds. In addition, I received a Grant-in-aid from the Social Science Research Council. In Mexico City, Ambassador Dwight Morrow and his secretary, Mr. Allan Dawson, established valuable connections for me with officials of the Mexican Government, all of whom gave me generous aid. D. Rafael Lopez, Director of the Archivo General, permitted my unrestricted access to the rich collections of land titles and other manuscript documents, and D. Luis Caballos Moncada gave his expert help in searching them.

Out in the field active support was given by a large number of people. I found the elective authorities of the Tzapotec and Mije Indians always willing to assist me. Among them I am under particular obligation to my friend Amador Bautista, at the time Presidente Municipal of Mitla. He spent many days answering questions and accompanying me on field trips. Nobody else could have given me more valuable information.

During my entire stay in the region studied I had a feeling of absolute safety, and I retain the most friendly memories of the Indians among whom I worked.

OSCAR SCHMIEDER.

BERKELEY, January, 1930.

THE SETTLEMENTS OF THE TZAPOTEC AND MIJE INDIANS STATE OF OAXACA, MEXICO

BY
OSCAR SCHMIEDER

THE NATURAL SETTING

From the city of Oaxaca, toward the southeast, extends a large depression, the valley of Tlacolula (pl. 1, *a*, *b*), about 40 kilometers in length and from 3 to 15 kilometers in width. Its elevation varies slightly between 1150 and 1700 meters, an altitude which is just high enough to eliminate the disadvantages of the tropical climate proper to the geographical location, without giving to it the rigor that characterizes the high mountains.

Out of the valley toward the north and northeast rise the mountains of the Serrano Tzapotec and Mije, culminating in the west in the Sierra de Juarez, and in the northeast in the Zempoaltepec (map 1). From the crest of these higher elevations, which nowhere exceed 3000 meters, there is a sharp descent toward the humid tropical lowland of Vera Cruz.

The depression of Tlacolula, the mountains of the Serrano Tzapotec and the Mije, and the steep slopes of these mountains toward the Vera Cruz, form the setting for the cultural development analyzed in this paper. For comparative purposes, references have been introduced to parts of the highland of Anahuac, farther north.

THE GEOLOGIC BASE

The foundation of the area is composed of highly metamorphic rocks which appear at the surface only in certain localities. Gneiss and breccia, for instance, form outcrops at Monte Alban, north of Oaxaca City. Slates occur in the deep erosion valley north of Molinos northeast of Oaxaca City. In the greatly dissected districts around Ayutla, highly metamorphosed limestone, partly in the form of marble, breccia, cloritic schists, and quartzite, predominate. In the deep ero-

sional valley of the lower north slopes, this ancient underground is also exposed—for example, on the trail from Amatepec to the ranchería of Ou-yioux (see map 6).

By far the greater part of the mountains of the Tzapotec and Mije have been built up of extrusive rocks, outflows as well as tuffs (Tertiary and post-Tertiary). Andesites, rhyolites, dacites, and trachytes prevail.

Intrusive, granitic rocks occur only locally—for example, east of Yalalag. The granitic intrusion seems to have taken place posterior to the great extrusions. The inclusions of andesite which the Yalalag granite contains, are evidence of this.

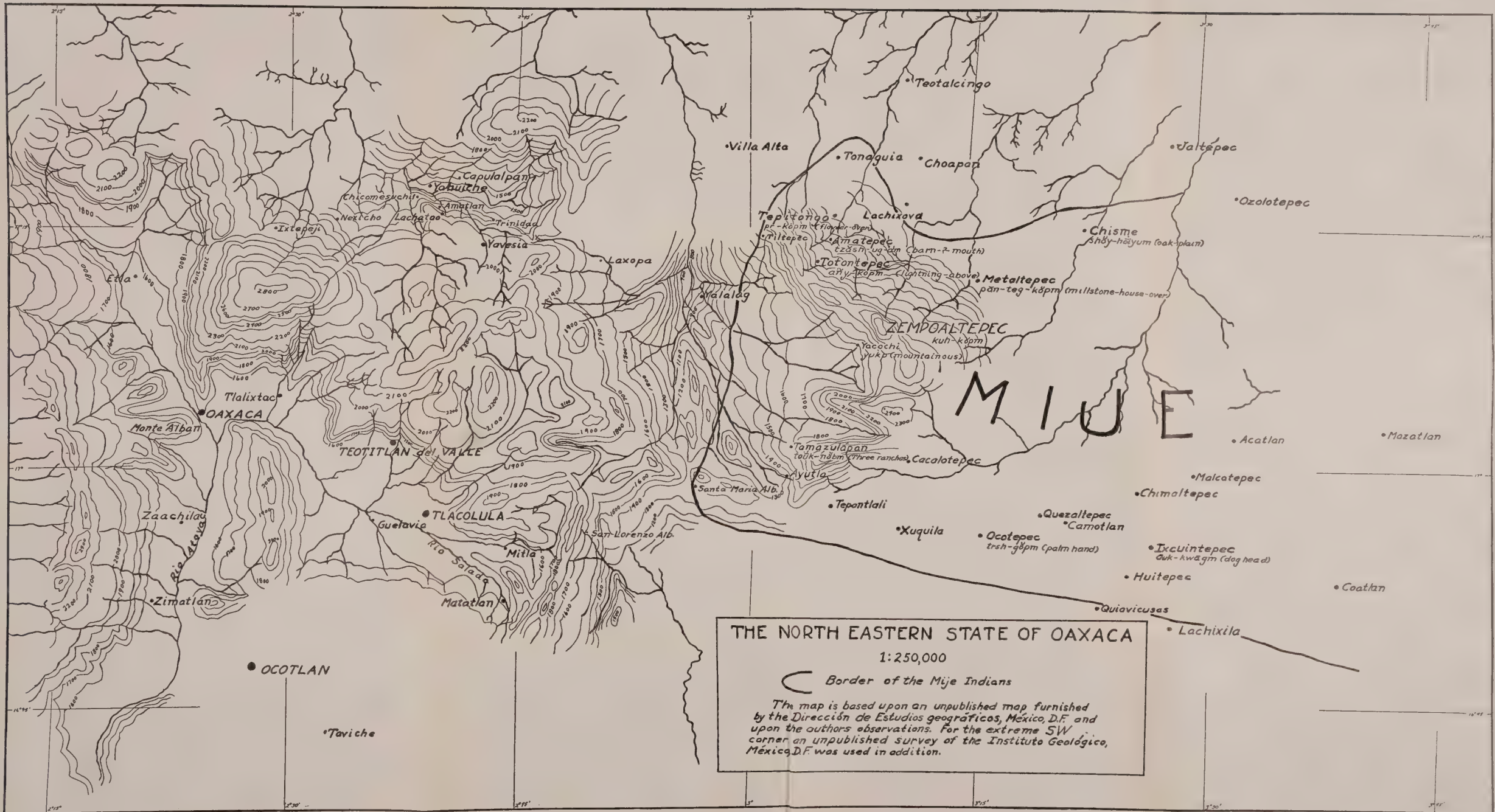
There are no vestiges of any recent volcanic activities in the area. Yet endogene forces are evidently still at work. All of the colonial buildings which are still in existence have suffered more or less from the frequent earthquakes. Particularly destructive were those of 1603, 1604, and 1608.¹ An earthquake in 1727 was recorded because it destroyed the *colegio* of the Jesuits at Oaxaca. On October 4, 1800, the splendid cupola of the Jesuit church came down.² Recent years have also registered destructive seismic movements—1928, for example. These do not take place along definite tectonic lines. As a matter of fact, the morphology shows no evidence from which to deduce the existence of fault lines. Nor does the form of the stream pattern suggest that it might have been influenced by tectonic lines. I venture to connect the seismic movements with magmatic intrusion, the persistence of which in late Tertiary or post-Tertiary times is confirmed by the Yalalag granites. That a general uplift has affected the entire area and that this movement is still going on may also be concluded from an interpretation of the regional geomorphologic features.

Larger masses of fill, posterior to the eruptive formations, are restricted to the great valley of Tlacolula. The base of this great depression consists of solid volcanic rock, which is frequently exposed at the surface (plates 1a, 2), as at the east of Oaxaca City where numerous rhyolite quarries exist. Near Tlacolula, cone-like dacite hills³ rise steeply out of the flat valley floor (pl. 2a).

¹ E. Mühlentpford, *Versuch einer getreuen Schilderung der Rep. Méjico* (Hannover, 1844), 1:139.

² Bishop E. Gillow of Oaxaca, *Apuntes históricos* (México, 1899), Apéndice, p. 33.

³ J. Felix u. H. Lenk, *Übersicht über die geologischen Verhältnisse des mexikanischen Staates Oaxaca*, Beiträge zur Geologie und Paläontologie der Republik Mexico (Leipzig, 1893), part ii, 1:29.



The valley fill itself, at least in the western and central parts, consists of several horizontal layers of brown loams intercalated with others of alluvial sand and pebbles. Directly east of Oaxaca City, at least two buried land surfaces at a depth of between three and four meters were suggested by dark brown to black horizons, evidently due to ancient humus formation. It seems as if the valley floor was once covered, at least in part, by shallow lakes, which have been slowly dried out and drained. The surroundings of Guelavía, in particular, are famous for the salts which the upper sediments contain. The natives distinguish between *tierras saladas* and *tierras amargas*, salty and bitter soils. These are unfit for cultivation, but the natives leach them out carefully and sell the salt obtained (see p. 22).

The most recent deposits are those of the alluvial cones, sloping gently down from the mountain frame, and overlaying the horizontal fill-horizons.

MORPHOLOGY

The weathered surface shows a soil cover varying in depth as well as in quality. The upper horizons of the fill of the western valley of Tlacolula consist of brown loam, without appreciable humus content. Toward the arid eastern part of the valley, soils become sandier and lighter in color, partly light gray. Deep red soils are found in the rainier parts of the northern mountains.

In the western valley of Tlacolula several buried surface horizons indicate that periods of intensive aggradation repeatedly interrupted the normal development of soils through weathering. In the mountains, on the contrary, denudation interferes with the process. The mountains around the eastern part of the valley show a bare rock surface; denudation evidently prevailed over weathering. But also in the heavily forest-covered mountains, particularly on the steep north slopes, there is every evidence of intensive slumping, frequently on a large scale. Only observations during the rainy season can give an idea of the amount of weathered material which moves down the slopes. Red furrows stand out conspicuously from the green of the mountains. But in only a few weeks the aggressive vegetation has covered up these scars, and it soon becomes impossible to recognize the healed-up slump beneath the jungle. Soil removal becomes most conspicuous where man has previously destroyed the vegetation cover. Particularly on the mountains around Oaxaca City, which carry at best only

a very poor and scarce scrub vegetation, innumerable minor land-forms exhibit the effect of surface run-off (pl. 3).

Observation in the Serrano, Tzapotec, and Mije mountains reveals at first several characteristic morphologic features: (1) As one overlooks the higher parts of the mountains, remnants of a leveled land surface come into view. The extent of these summit peneplains is nowhere very great. Modern erosion has everywhere at least started to dissect them. Yet in their combined effect these leveled high plains in places give to the sky line the aspect of a great high plain (pls. 4*b*, 5). The origin of these leveled high surfaces, whether initial, or terminal, or unrelated to denudation and the original surface of eruptive rocks, remains problematic. In minor areas, such as that north of Mitla, plateau-like surfaces are evidently related to the structure of the underlying porphyritic rock.

(2) The unit block which forms the Serrano and Mije mountains has been intensively dissected. On the Atlantic, the coastal lowland of Vera Cruz forms the base level, and on the Pacific side, the floor of the valley of Tlacolula (above 1500 meters). Not only does the existence of a much lower base level make the erosion by the rivers running toward the Atlantic much more energetic than that by those draining toward the Pacific, but the north slopes receive also a much greater amount of rainfall. Consequently, the northern slopes are very greatly dissected, while the southern slopes are much less so. Prevailing Atlanticward erosion is also responsible for the shift of the water divide toward the south far beyond the highest elevations of the primary mountain block.

During the process of dissection the mountain block itself has continued in upward movement. The convex slopes which prevail throughout the mountain landscape suggest that endogene movement has been greater than erosion, and that the process of uplift is still more effective than the leveling forces.

The endogene process has evidently had periods of increased and decreased intensity. The complicated systems of erosion terraces that accompany the river valleys are evidences of this (pl. 4 *a*, *b*). A satisfactory genetic interpretation of the valley forms cannot be attempted. The lack of a cartographic base makes it impossible to establish the exact relation between the terraces of different valleys.

(3) The third morphologic unit is the valley of Tlacolula, for which the purely descriptive term "depression" should be used (map 1; pls. 1 and 2). This depression forms but a branch of the

much larger valleys of Oaxaca and Etla (map 1). Together they form a system of aggraded basins. The floor is horizontal and shows but slight evidence of ravine-cutting. Gentle alluvial cones slope up to the mountains. The width varies greatly; between three and fifteen kilometers, in the Tlacolula Valley.

Large parts of the valley floor were once covered by shallow water bodies. Place names and tradition still mark such places. The area around Guelavía with the strong content of salts in its surface horizons has been completely drained only recently.

I know of no evidence to support the assumption that Tlacolula Valley is a *graben*. There is nothing to suggest the existence of faults along its borders. The depression of Tlacolula rather gives the impression of an erosive valley system, the lower part of which has been drowned by fill. This statement, however, has merely the value of a tentative hypothesis. The key to the problem probably lies in the south where the Rio Atoyac, the main stream of the great valley system of Oaxaca, leaves the wide aggraded basin and crosses the mountains of Miahuatlan through a narrow canyon, flowing as the Rio Verde into the Pacific.⁴ Only a recent uplift of these southern coast ranges could have blocked off the Oaxaca Valley system and caused it to become drowned by fill.

CLIMATE

The climate, although rich in local varieties, shows some uniform features. Throughout the area the annual range of temperature is so small as to be almost tropical in character. For the town of Oaxaca (1550 meters) the average annual range in temperature for a five-year period is only 5° C. For Ixtlán de Juarez, over an equal period of time, the average annual range is 5.1 C. Throughout the area there is a distinct seasonal variation in rainfall, one season having a decidedly reduced precipitation. Only on the Atlantic slope is the annual amount considerable, being probably 1500 millimeters or more. The rest of the country receives so little precipitation that a Steppe climate (*BS* in Köppen's terminology) would be the result if it were not for the general altitude which keeps temperature, and therefore evaporation, low. But even so there are probably minor *BS* areas, although their existence is not proved by instrumental observations.

⁴ P. Waitz, Notas preliminares relativas a un reconocimiento geológico por el curso del Atoyac (Rio Verde), Oaxaca, Parergones del Instituto Geológico de México, 4:2-32 (1912).

Among the local climates, that of the valley of Tlacolula is best known. The differences of elevation within this minor area are small (Oaxaca, in the west, 1550 meters, and Mitla, in the east, 1700 meters), and there is at least one meteorological station with records for several years.⁵ Temperature conditions are almost ideal.

The annual and daily range show no extremes; winter is not too cold nor summer too warm. The rainfall is certainly not too high; the five-years' observations at Oaxaca show annual values ranging between 435.9 and 925.5 mm. This amount makes irrigation unnecessary in the western and central parts of the valley. Toward the east, precipitation seems to decrease. The inhabitants of eastern villages appreciate irrigation since they frequently lose their crops in abnormally arid years. Air currents of the *Föhn* type, descending in summer from the northern mountains, add to the aridity. Were quantitative data on hand, the eastern valley of Tlacolula would probably prove to be of the *BS* type.

Throughout the Tlacolula Valley rainfall occurs in the summer, the months from November to March being almost rainless. Most of the rain is due to local convectional air currents and takes the form of regular, heavy, afternoon showers. This, however, is apparently not the only form of precipitation. During the entire first half of September, 1929, the eastern part of the valley was under almost uninterrupted rain, very unlike the typical form of tropical precipitation.

The climate of the south slopes of the mountains north of the valley is closely related to that of the valley of Tlacolula. Summer is again the rainy season and winter brings only scant precipitation. The annual amount of rainfall seems to be considerably higher than in the valley (Oaxaca, 5-year average, 673.4 mm.; Ixtlán de Juárez, 5-year average, 870.6 mm.). However, temperatures on the whole are lower, a consequence of greater elevation. While the valley climate is very close to the *A* type, the mountains belong definitely to the *C* type of climate. The isothermal character remains obvious. The Köppen symbol for a typical mountain settlement like Ixtlán de Juárez would be *Cwi*.

The variety of land forms produces a wide range of local climatic types. This diversification is great enough to affect human activities, particularly agriculture. There are hardly two settlements in the area that have the same conditions for land cultivation. This variety in the products of the different places stimulates local trade.

⁵ The unpublished records for Oaxaca and Ixtlán de Juárez have been accessible through the courtesy of Señor Mariano Moctezuma, Chief of the Mexican Meteorological Service.

OAXACA, OAX.

Year	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
AVERAGE TEMPERATURES IN C°													
1914	17.5	19.6	20.4	21.3	21.8	20.7	21.5	21.6	20.7	20.5	20.3	19.7	20.5
1915	19.1	18.3	19.9	21.8	23.8	22.7	20.9	20.9	20.4	18.8	18.5	18.0	20.2
1925	17.5	18.6	20.1	22.1	21.2	20.7	20.7	21.4	20.2	20.6	18.8	16.3	19.8
1926	17.7	18.7	21.5	22.2	22.5	21.2	20.9	20.8	20.1	20.1	17.8	17.7	20.1
1927	15.5	18.8	21.1	22.2	23.7	21.3	21.0	20.6	18.8	19.4	18.3	18.6	19.9
Averg.	17.5	18.8	20.6	21.9	22.6	21.3	21.0	21.06	20.0	19.9	18.7	18.06	20.1

TOTAL PRECIPITATION IN MM.

1914	5.9	0.0	8.8	50.8	70.1	119.6	21.3	37.3	57.0	57.4	7.7	0.0	435.9
1915	0.7	0.0	33.5	6.4	41.8	69.4	117.2	208.7	203.0	44.9	1.9	0.0	727.5
1925	5.0	9.0	0.5	29.5	119.5	128.5	23.0	20.5	167.5	29.0	23.0	44.0	599.0
1926	0.5	0.0	9.5	16.0	76.0	224.0	133.0	159.0	253.5	42.0	12.0	0.0	925.5
1927	0.0	0.0	0.0	30.0	33.0	156.5	73.0	83.0	227.5	71.0	5.0	679.0
Averg.	2.4	1.8	10.5	26.5	68.1	139.6	73.5	101.7	181.7	48.9	8.9	9.8	673.4

IXTLÁN DE JUAREZ, OAX.

Year	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
AVERAGE TEMPERATURES IN C°													
1906	14.1	14.7	17.9	18.0	19.0	17.2	16.7	16.3	16.4	16.0	14.2	12.8	16.1
1907	13.3	13.9	15.3	17.8	18.1	16.9	16.0	15.7	15.8	15.7	15.7	13.9	15.7
1909	12.0	14.7	16.5	16.5	19.8	17.7	17.1	16.7	14.6	14.6	12.7	12.1	15.4
1910	11.7	14.4	13.3	15.7	16.6	16.7	15.6	16.5	15.7	15.0	14.1	15.0	15.0
1928	12.1	14.0	15.1	15.7	17.9	17.5	16.7	16.9	17.0	15.2	13.8	14.3	15.5
Averg.	12.6	14.3	15.6	16.7	18.3	17.2	16.4	16.4	15.9	15.3	14.1	13.6	15.5

TOTAL PRECIPITATION IN MM.

1909	3.5	3.8	0.0	15.0	97.8	47.5	104.0	97.3	238.0	90.8	75.0	15.0	787.7
1910	122.5	0.0	5.5	2.4	59.0	189.8	178.3	70.3	61.3	76.5	3.8	9.3	778.7
1911	1.5	4.5	3.3	42.9	84.6	150.2	148.3	63.8	105.5	182.5	174.5	2.3	963.9
1927	9.0	0.0	0.0	28.5	21.2	132.2	83.5	63.8	204.2	81.3	21.1	23.5	668.3
1928	17.0	40.0	25.0	0.0	53.5	165.0	217.0	40.0	273.0	190.0	131.0	3.0	1154.5
Averg.	30.7	9.7	6.8	17.8	63.2	136.9	146.2	67.0	176.4	124.0	81.1	10.6	870.6

In a zone coinciding fairly well with the highest elevations of the Tzapotec and Mije mountains, a transition to the climates of the north slopes takes place. The climatic feature which distinguishes the north slope climates from those of all the rest of the area is their excessive humidity. During the greater part of the year moist air from the Atlantic ascends the north slopes. This typical circulation is interrupted only for short periods of time in December and January. The result of this type of circulation is the formation of heavy clouds, owing to the forced rise of the moisture-laden air currents from the Atlantic over the north slopes of the mountains. On the few occasions when the higher elevations are free from fog, one can look down upon an ocean of clouds covering the lower slopes. An undisturbed view from the heights of the Zempoaltepec to the shores of the Atlantic can be expected only during the winter months.

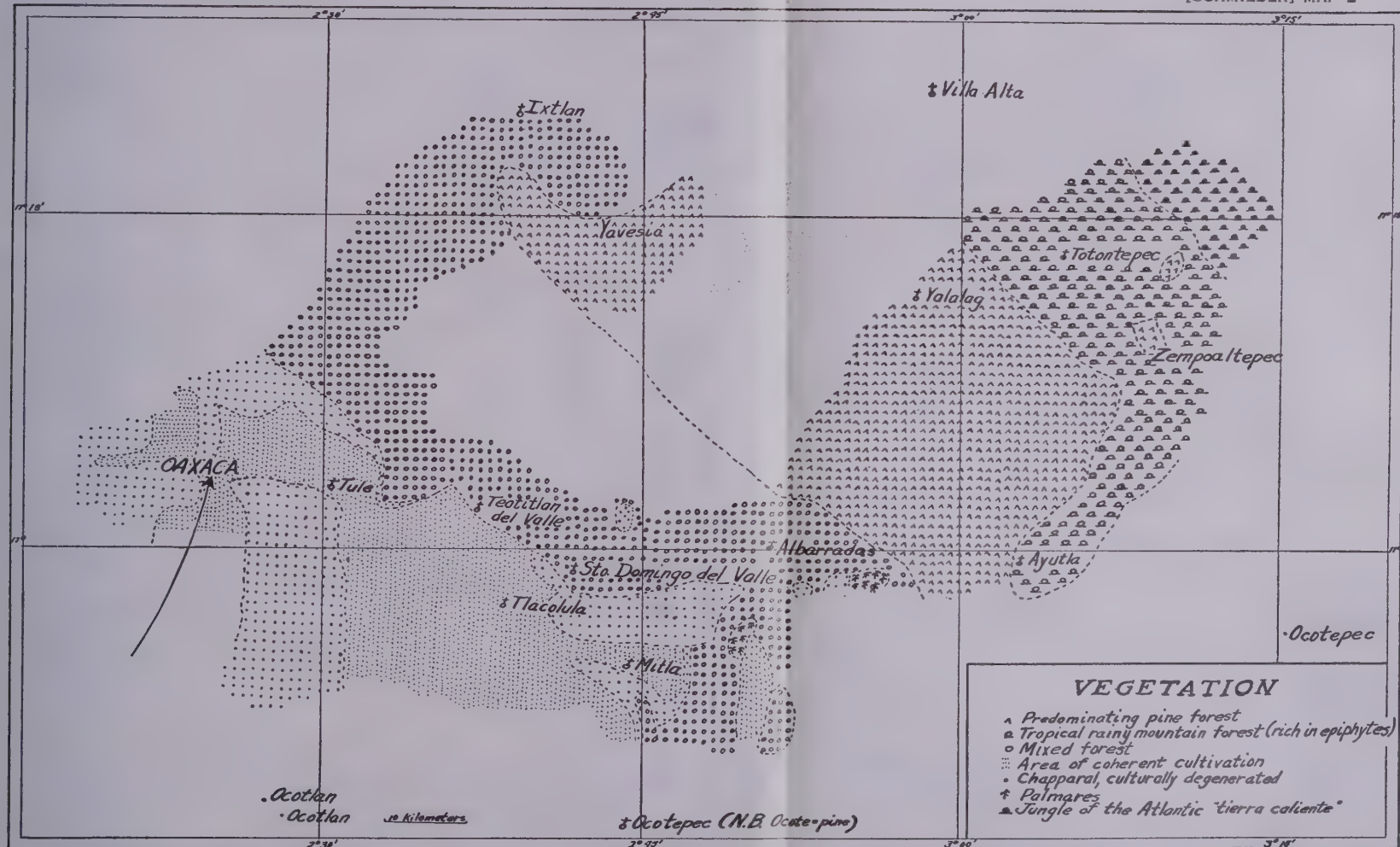
Precipitation itself takes place in typical tropical fashion, in the form of cloudbursts and thunder showers during the afternoon. There are no records of the annual amount of rainfall in existence. There is every indication, however, that it is very high, probably nowhere less than 1500 mm. The north slopes alone have true humid climates, in all probability passing from the *Cf* type in the higher and medium elevations to *Af* on the lower slopes and the neighboring lowland.

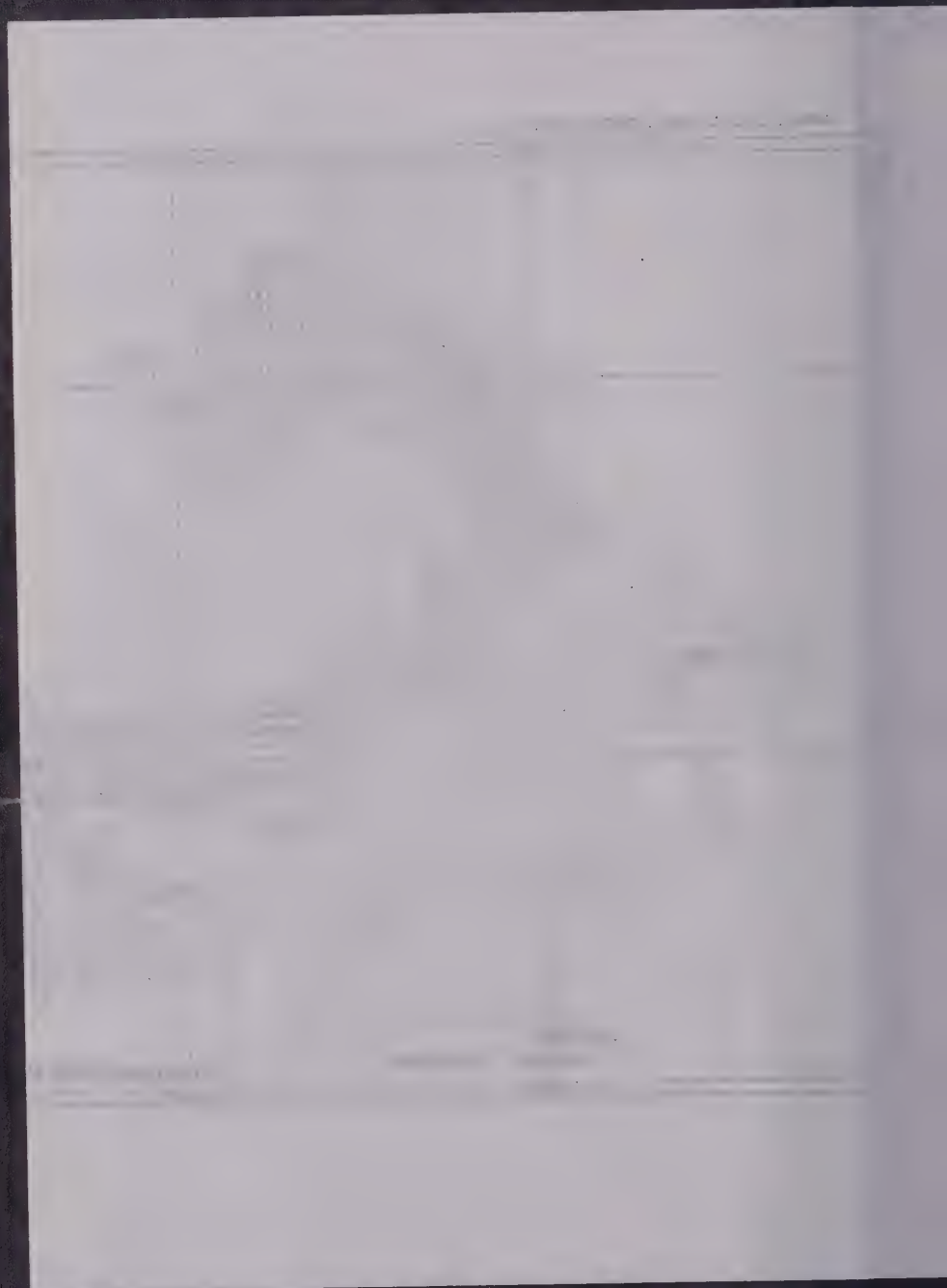
VEGETATION

Map 2

The physiognomy of the present vegetation^a can no longer be attributed to natural influences alone. Of course, soil and climate still continue to contribute to its determination and in their variations are responsible for a complex differentiation of the plant cover. Even today there are areas in which vegetation presents itself unchanged, forming a true *Urlandschaft*. But in most parts of the region under study, man's influence has become more or less effective. In certain parts cultural influences have changed the original plant cover beyond recognition. In the dense populated valley of Tlacolula, alteration of the plant cover has been complete, whereas the rainy forest, which extends around the Zempoaltepec at elevations of more than 2400

^a E. Stahl, *Mexikanische Nadelhölzer, Vegetationsbilder* (herausg. v. G. Kars-ten und H. Schenck [Jena, 1904], Ser. 2, Nos 3/4). The only attempt to analyze the distribution of plant life in the state of Oaxaca is due to C. Conzatti, *Las Regiones botánico-geográficas del Estado de Oaxaca*, Proceedings of the International Congress of Plant Sciences, 1:525-539 (1929).





meters, still preserves its original condition. Between those two extremes there are gradual transitions.

There are at present several typical plant associations. The one which has probably shrunk most under the destructive influence of man is that of the "needle forests" or *ocotales*⁷ (pl. 6a). These consist frequently of stands of various kinds of pines among which the beautiful, long-needled *ocote* proper (*Pinus Montezumae* Lamb.) is outstanding. Various species of firs are associated with them. Large areas in the Mije mountains are still covered with original stands of pine forests, but these are only remainders of a plant association that was once much more extensive. Place names like *Ocotepec* (Pine Hill), *Ocotlan* (Pine Place), etc., are now far from the pine forests (cf. map 2). One spot directly north of Mitla is still called "At the border of the Pine Forest," although today it takes a good day's ride from there to reach the border of the pine forests of Ayutla. The isolated group of big trees (*ahuehuetl* of the Mexicans, *Taxodium mucronatum* Ten.) at Tule are apparently the relicts of the extinct climax vegetation of the valley. De Candolle has estimated their age to be 6000 years, von Humboldt, 4000. There seem to have been more of such isolated relicts of *Taxodium mucronatum* in the valley of Oaxaca. There is a place near Zaachila, for example, which still bears the Tzapotec name Ra-ya-vidsh below the Ahuehuetl.

The fact that the pine forests are easily burned down and are slow in recovering lost ground, since they depend upon seedlings for second growth, explains their loss of territory. Other plant associations, particularly the chaparral, are much faster in their natural expansion. Chaparral and oak forests therefore succeed as a rule where the pine forests have been destroyed by man.

The *ocotales* have also lost territory in favor of the tropical rainy forests of the north slopes. In the upper *tierra caliente* there are isolated stands of pine trees now surrounded by subtropical jungle. I passed several extensive stands on the way from Totontepec to the ranchería of Ou-yiuk (map 2) at elevations of about a thousand meters—that is, several hundred meters below the upper limit of the subtropical rainy forest with its characteristic fern trees. The greater exposure of the pine forests to fire, as compared with the jungle, probably accounts for this succession. At present the lower limit of the *ocotales* lies at approximately 1600 meters, their climax development

⁷ The Mexican name *ocote*, *ocotl*, is given by the natives to any kind of pine tree.

occurring at elevations of 2000 to 2600 meters. At these elevations there are stands of trees as high as 30 meters, such as those on the mountains east of Yavesía, for example (map 6). The upper limit of the distribution of needle trees is nowhere attained since there are no elevations of more than 3000 meters. From all of the other forest types of the area the *ocotales* are distinguished by the scarcity of their undergrowth.

The destruction of pine forest by man and the succession of other plant associations are still going on, but the process is slowing down, since the *ocotales* which exist today occupy only the less desirable land—either that which is at too high an elevation or whose soil is too sterile. At present most of the areas occupied by pine forest are considered unsuitable for agriculture by the natives.

The main formations to succeed on the territory lost by the needle forests are: (1) deciduous mesophytic or xerophytic forests, frequently scattered through with needle trees so that they take on the character of (2) mixed forests. Different species of *Quercus*⁸ prevail in the deciduous as well as in the mixed forests (pl. 8*b*). The majority of them are of the broad-leaved sclerophyll type. A characteristic feature of the oak forests is the large number of *Tillandsia usneoides* L. which dwell particularly on the older trees.

A stand of palm trees (*Brahea* sp.), common in the Mixteca, exists also on land belonging to the villages of San Lorenzo and Santa Maria Alvarradas (pl. 8*a*). No advantage was taken of the raw material until the Dominicans, early in the Colonial period, brought in Mixtec colonists, expert in the making of palm-straw hats, mats (*petate*), and baskets (*tenate*). These Mixtecs founded the village of San Lorenzo in the neighborhood of the *palmares*.

I doubt whether any of the chaparral of the area represents a true climax vegetation. Its present extension certainly suggests that it has been culturally induced and is not controlled by environment. Shrub of different forms, often floristically similar to the oak forests, and in places also pure stands of *pajaro bobo* (*Ipomoea intrapilosa*) predominate, particularly in the country surrounding the larger settlements. The mountains around Oaxaca, especially, are devoid of tree growth, carrying only the poorest type of shrub. In the case of the country around Oaxaca the conversion of forest into shrub by human

⁸ Mexican extratropical forests are particularly rich in different oak species. Henssley (*Biologia Central americana*, Botany 3 [London, 1882-1886]:166), enumerated 86 species. Now the number of known species is considerably higher.

influence has been carried on at high speed during the past half-century. Entire mountains were pointed out to me by reliable, elderly citizens of the town as having been heavily forested in their youth. The enormous waste of lumber in house construction is mentioned elsewhere (p. 40). To this has been added in modern times the consumption of wood as fuel in the smelters.

The vegetation of the depression of Tlacolula has been altered beyond recognition. The *ahuehuatl* trees of Tule have been mentioned as probable relicts of an extinct climax vegetation. The big *Higo montes* (*Ficus mexicana?*) on the plaza of Mitla is another example of the possibility of tree growth even in the most arid parts of the valley. Today approximately 90 per cent of the valley flat is under permanent cultivation. Only where the rocky underground rises above the fertile fill, along the roads and on the border of the fields, does the vegetation get a chance to develop, and even there it remains exposed to the destructive influences of man and domesticated animals. One of the most conspicuous trees of the valley is the *arbol del Perú* (*Schinus molle*). As the name indicates, this tree was introduced from Peru after the coming of the Spaniards. *Pajaro bobo* (*Ipomoea intrapilosa*), *guaxe* (*Leucaena esculenta*), and *chamizo* (*Baccharis* sp.) are common. Numerous cactaceae (*Cereus* sp.) of the chandelier and *órgano* type emphasize the xerophilous character of this plant association. The *órganos* in particular frequently grow as high as five or ten meters (pl. 9a).

The only hygrophilous formation, except for unimportant edaphic plant associations, is the rainy forest (pls. 6b, 7a), which sweeps like an immense green wave up from the Atlantic coast plain to the slopes of the Zempoaltepec Mountains. The extension of this formation is restricted to the area of greatest humidity. Within it the actual rain forest represents a climax formation. It is true that considerable clearings have been opened in it, but nowhere has human influence caused a permanent transformation of the vegetation. Wherever clearings or fields are abandoned by man, the rainy forest soon reestablishes itself. It is impossible to determine from observation of any particular portion of the forest whether it is an original stand or an older second growth.

The rainy forest grows as high as the highest elevations of the area. Its limits are controlled by humidity. On the whole, it becomes impoverished with increasing elevation, but even in its poorest aspects

it remains more luxuriant than any of the other plant formations mentioned above. Particularly striking is the contrast of the rainy forest to the pine forest against which it stands. In the rainy forest the space seems to be completely filled. Tall trees grow close together and in between them is a heavy growth of underbrush. The branches of the trees are covered with the most diverse species of epiphytes. At elevations below approximately 1500 meters tree ferns become conspicuous. The real tropical rainy forest, however, does not enter the region under study. The habitat value of the rainy forest of the Atlantic slope differs strikingly from all other plant formations that occur in the area. Furthermore, the rainy forest has proved to be much more resistant to human influences, and wherever it has lost territory, such a loss must be considered only temporary. The aggressive vegetation of the rainy forest may at any time reconquer it.

THE CULTURAL AREAS AND THEIR SETTLEMENTS

THE VALLEY OF TLACOLULA

The classification of the settlements of the valley of Tlacolula must be based upon their historical development, since this it is that explains their present morphological and cultural differentiation. There are vestiges of many settlements abandoned before the Spaniards arrived. Others owe, if not their existence, at least their prosperity to the coming of the Europeans. Oaxaca, for example, grew from a small Mexican village to be the urban center of the region. It became the stronghold of the white element, and also attracted thousands of Indians who had lost connections with their home villages.

The rural settlements in this valley are either clustered, more or less compact, Tzapotec⁹ villages, often town-like in character, or haciendas, the rural estates of Mexicans and foreigners. A closer study of the Indian settlements reveals many, though inconspicuous, differences among them. There is a curiously wide differentiation of languages, a phenomenon which could hardly have developed if the villages had always been as close together as they are now. Again, there is the type

⁹ The Mexicans gave the name of Tzapotec to this tribe, and that of Tzapotecapan to their territory. The Tzapotec have no name for themselves except *ven-did-dsá*, the people who have their own language. I follow A. F. Bandelier in the spelling of Tzapotec, since the more usual form, Zapotec, as pronounced in English, does not do full justice to the name as the natives themselves pronounce it. In the State of Oaxaca, the number of Indians speaking Tzapotec is 210,000, according to the Censo General de Habitantes, 1921, Estado de Oaxaca, México (1927).

of settlement so rich in land that it rents some to Indians from other communities. Such a village is usually on the defensive, and it has a hard time protecting its land against the claims of encroaching neighbors. Within historic times these villages have lost substantial amounts of territory in this way. In other settlements the situation is reversed, and the inhabitants are always on the lookout for more land. They will squat on alien territory when they can do so without opposition, or they will start a lawsuit over the boundary of a neighboring settlement if there seems to be a chance of winning it.

Many Indian villages were fully developed in pre-Columbian times and have persisted into the modern period. Others came into existence much later and lack the proud traditions of the older ones. The theoretical reconstruction of these Indian settlements as they existed at the time of the Spanish Conquest is based on very little source material. There are no references to them in written native documents of pre-Columbian origin. Archaeological finds give almost the only information that exists. There has been no methodical investigation of the many ruins of the valley,¹⁰ and consequently the picture of the pre-Spanish settlements must remain indefinite. Beginning with Spanish times, the source material becomes more and more plentiful and places our research upon a more solid and reliable foundation.

Place names in the Tlacolula Valley—

The Spaniards found the valley of Tlacolula settled by the Tzapotec (pls. 22a, 23, 26, 27, 28) who lived in a few large villages that were almost like towns. Each of these pueblos owned considerable territory and frequently had *aldeas* attached to it. When the distance from the main settlement became too great for the inhabitants who had fields in outlying sections, they settled permanently nearer their fields, forming *aldeas* or *rancherías*, which, however, remained dependent upon the main pueblo.

Most of the place names¹¹ in use today are Mexican, some quite clear in meaning and others of problematic etymology. To the first group belong names like Tlalixtac (*tlalli*, earth; *ixtac*, white) and also

¹⁰ The best account of the archaeology of the Tlacolula valley is still that of A. F. Bandelier, Report of an Archaeological Tour in Mexico in 1881, Papers of the Archaeological Institute of America, American series, 2:262-326 (chap. 4, An Excursion to Mitla; 1884).

¹¹ Antonio Peñafiel, Nomenclatura geográfica de México, Etimologías de los nombres de lugar (México, 1897); Manuel Martínez Gracida, Catálogo etimológico de los nombres de los pueblos, haciendas y ranchos del Estado de Oaxaca (Oaxaca, 1883).

Macuilsochil (cf. note 22). In the second group are such names as Matatlan, either from *matlatl*, net, or *matlacatli*, ten; *tlán*, place. Mitla may be derived from *mictlán*, meaning both the place of the dead, and north, or from *mitl*, arrow. It is still an open question whether it was before or after the Conquest that the Mexican place names came into general use.

Each settlement with a Mexican name also has a Tzapotec name, although the latter are falling into disuse and are sometimes almost forgotten. A few villages, however, are known only by their Tzapotec names. Guelavía (cf. note 27) has no Mexican name at all. The haciendas Tanivé (*tanni*, hill; *bee*, ant) and Xagaa (*xana*, below; *gia*, mountain, or *gaa*, nine) have only Tzapotec names. Under Spanish rule, of course, each settlement when baptized was given also the name of a saint.

Only the settlements and the main rivers and creeks have Spanish names in addition to their Tzapotec ones. Hardly any foreign influence is noticeable in the complex toponymy of the minor features of the landscape. Many of these place names represent ancient forms unintelligible today. Others have clear meanings frequently suggesting interesting ideas as to past conditions of the landscape. Some terms contain corrupted Spanish words which have been incorporated into the present Tzapotec language (cf. map 4).

Field patterns in the Tlacolula Valley—

The transformation of the valley floor into an area of intensive cultivation seems to have taken place according to a single system in the course of which the natural vegetation has long since disappeared. The tall old *ahuehuatl* of Tule are probably the last remains of a climax vegetation which vanished under the influence of man. By now every portion of the valley floor has been under cultivation at some time. Where the natural growth has been allowed to spring up again, it is an extremely poor type, brushwood or scrub.

Evidently man has cultivated this area for a long period of time. In substituting fields for natural vegetation he has followed a very distinct method. To the Tzapotec, as well as to the Nahua and Mije, the land in which they dwell is divided by nature into many small units. They recognize the individuality of every morphological feature—a slope, a gully, a dale, a little flat in a valley, etc.—by giving to each a proper name (cf. maps 4, 6). The Tzapotec have no collec-

tive term in their language for such minor areal units, and have borrowed the word *paraje* from the Spaniards, abbreviating it to *paraj*. The meaning of the word is identical with the German *Flur*, for which medieval Latin documents substitute the term *pago*.¹² In English the terms shot and furlong¹³ are similar but not exactly equivalent to the meaning of *paraje*. The latter term, therefore, will be used in this paper.

In slowly expanding their fields at the expense of the natural vegetation, the Tzapotec have let themselves be guided by this pre-established subdivision of the country into small units, or *parajes*. Starting on the outskirts of each settlement, the villages cleared one after another of the surrounding *parajes*. Preparing them for cultivation was a task carried out collectively by all the men of the village. When a *paraje* was ready, it was subdivided into equal lots and each family received one of these subdivisions, called a *milpa* (a corruption of a Nahua word, the root of which is *milli*, cultivated field). The current use of a Nahua word for so common a feature as an individual field might suggest Nahua influence on Tzapotec agriculture. As a matter of fact, exactly the same development of the field pattern that is characteristic of the Tzapotec is to be found among the Nahua peoples.

The individual lots which each family received as private property were originally equal in size (cf. map 5), but through inheritance or sale the lots changed owners. More aggressive families accumulated lots, others lost them. The original uniform subdivision of the *paraje* into *milpas* thus changed in the course of time and became highly irregular. Map 5 represents a *paraje* at the time of its original subdivision into equal lots, and the picture (pl. 30a) shows the irregular field pattern of an ancient *paraje* located on the outskirts of a settlement. As the development went on and new *parajes* were cultivated, it happened that each family came normally into possession of several lots, each located in a different *paraje*. Map 4 shows a typical example of the dispersion of the *milpas* of a single well-to-do family.

This dispersion of fields around compact villages, so characteristic of Tzapotec and Nahua Indians, offers a curious parallel to the development among the German tribes. As a matter of fact, German terms such as *Gemengelage*, *Flur*, *Gewann*, etc., could be used to advantage

¹² See instances of such documents in A. Meitzen, *Siedlungen und Agrarwesen der Westgermanen und Ostgermanen*, etc., 2 (Berlin, 1895): 85.

¹³ F. Seeböhm, *The English Village Community* (ed. 4; London, 1896): 4.

and without modification of their meaning to describe the Tzapotec agrarian system. The old English open-field system¹⁴ with its scattered and intermixed ownership also offers many similarities. But whereas in Germany the ancient field pattern is still largely in existence, in England it was done away with for the most part between 1760 and 1844 by the Enclosure Acts. In this period "Enclosure Commissions" were appointed, and under their award the balks were ploughed up, the fields divided into blocks, and the whole face of the country changed.¹⁵

By its nature this system of field dispersion impeded the dissolution of the villages. Since no one owned a large, contiguous area, but everyone owned instead several small ones, scattered over several miles, it became impossible to abandon one's home in the pueblo in order to live on one's field. There is nothing to make us believe that the valley Tzapotec inherited any aversion to living on isolated farmsteads.

All the pueblos own, besides the high-grade valley land, poorer mountain land which offers only small patches for cultivation. The development of these lonely fields has been left entirely to private initiative, but the land remains community property for the simple reason that nobody cares to acquire it by permanent occupation. Where such land is sufficiently extensive in area for one man to clear it and begin cultivation, it often happens that this man goes there to live with his family. As long as he stays, the land is his by squatter right.

Type of land tenure in the Tlacolula Valley—

According to the very scarce pre-Columbia sources the entire valley of Tlacolula was conquered by the Mexicans a few decades before the coming of the Spaniards. The Codex Telleriano-Remensis¹⁶ has hieroglyphs (fig. 1) which, according to the accompanying Spanish interpretations, say: "In the year two rabbit and 1494 the Mexicans subdued the pueblo of Mictla which stands in the province of Huaxaca. The year three canes and 1495 the Mexicans subdued the pueblo of Teotzapotlan, which was the main town of the province of Huaxaca." If this statement is true, it is safe to assume that other less important settlements were also under Aztec domination by that time. This

¹⁴ Cf. Seeböhm, *op. cit.*

¹⁵ Seeböhm, *op. cit.*, 14.

¹⁶ Facsimile in Kingsborough, *Antiquities of Mexico*, 3 (London, 1831), 1, pt. 3:33. Spanish interpretation, *ibid.*, 5:153.



Fig. 1. Record of the conquest of Mitla by the Mexicans.—Codex Telleriano-Remensis, part 2, plate 22 (Kingsborough, vol. 1).

The upper hieroglyph stands for the year two rabbit, 1494. The one in the middle represents Mitla. The lower shows a *vauantli*, a prisoner destined for the *sacrificio gladiatorio*; this is the usual representation of the conquest of a town.

assumption is supported by another Indian document. The collection of Mendoza¹⁷ (his pl. 46; our fig. 2) shows among the symbols of pueblos paying tribute to Montezuma, one which, according to the Spanish interpretation added by order of the Viceroy de Mendoza, stands for Mictla. As a matter of fact, the two hieroglyphs believed to stand for Mitla in the Codex Telleriano-Remensis and the Codex Mendoza are absolutely different from each other. Furthermore, Seler¹⁸ gives two more symbols as standing for Mictlan: one from the Codex Bologna, plate 7, and the other from the Codex Vaticanus, plate 7. There are other Mexican settlements, however, for which more than one hieroglyph was in use.¹⁹ Furthermore, plate 46 (our fig. 2) of the Mendoza Collection enumerates half a dozen pueblos all located

¹⁷ Facsimile in Kingsborough, *op. cit.*, vol. 1. Spanish interpretation in vol. 5.

¹⁸ Codex Borgia (Berlin, 1904):66.

¹⁹ Antonio Peñafiel, *Nomenclatura geográfica de México*, Atlas (Mexico, 1895).

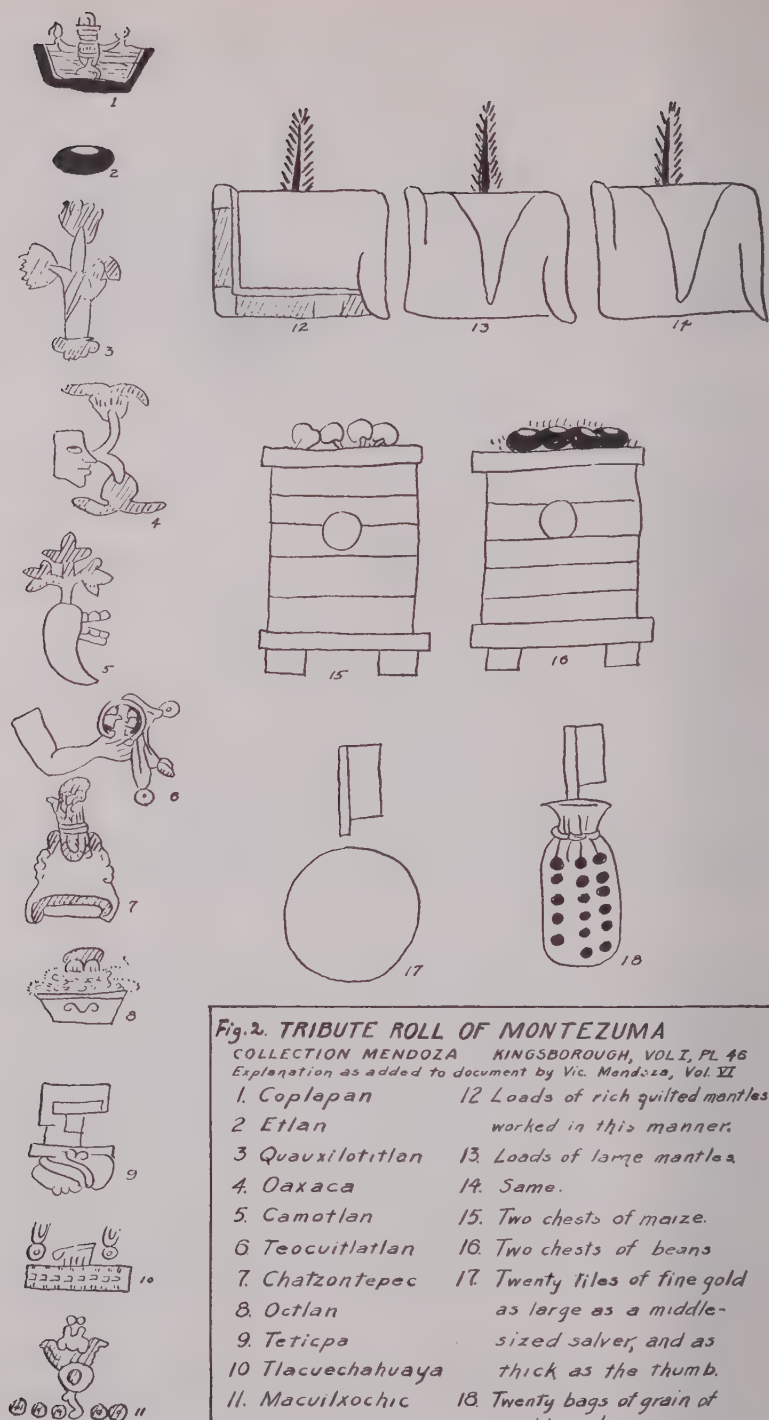


Fig. 2. TRIBUTE ROLL OF MONTEZUMA

COLLECTION MENDOZA KINGSBOROUGH, VOL. I, PL. 46

Explanation as added to document by Vic. Mendoza, Vol. VI

- | | |
|-------------------|----------------------------------|
| 1. Coplan | 12 Loads of rich quilted mantles |
| 2 Etlan | worked in this manner. |
| 3 Quauxilotitlan | 13. Loads of large mantles |
| 4. Oaxaca | 14. Same. |
| 5. Camotlan | 15. Two chests of maize. |
| 6 Teocuitlatlan | 16. Two chests of beans |
| 7. Chatzontepc | 17. Twenty tiles of fine gold |
| 8. Octlan | as large as a middle- |
| 9. Teticpa | sized salver, and as |
| 10 Tlacuechahuaya | thick as the thumb. |
| 11. Macuilxochic | 18. Twenty bags of grain of |
| | cochineal. |

in the Tzapotec country around Oaxaca. There can hardly be any doubt that the hieroglyphs represented on plate 46 and at least some of those on plates 45 and 47 of the tribute roll of the Codex Mendoza stand for towns of the valley Tzapotec. Among the thirty-nine plates showing the kinds and quantities of products to be paid by different pueblos as tribute to Mexico, only plates 45, 46, and 47, which are supposed to refer to Tzapotec and Mixtec settlements, show the expressive hieroglyph standing for cochineal. This natural dye was a typical product of the *Mixteca* and *Tzapotecada*. Ocotlán, in the valley of Oaxaca, was particularly famous for the production of this ancient dye.²⁰

If there is hardly any doubt that the Mexicans subdued the Tzapotec country in pre-Spanish times, it seems that they restricted themselves at least to levying a certain tribute from each settlement. As compared to that paid by other pueblos, the contribution of the Tzapotec seems to have been small. The amount of staple foods, corn and frijoles, which they furnished was so insignificant that the individual could hardly have realized that he was taxed. The chief payments were made in blankets, gold, and cochineal.

Except for this tribute, the Mexicans apparently left the Tzapotec to themselves. It is certain that the conquerors did not settle among the conquered and form a social upper class, nor did they claim part of the fields for themselves and establish large rural estates. Feudal land ownership seems to have been almost unknown in the valley of Tlacolula. Some of the settlements were governed by chieftains, called caciques, but these seem to have been no more than citizens prominent by reason of wealth and education. At the present time, in many of the village communities there are men of prominence whom the elected village authorities always consult on important matters before taking any action. The respect of the Tzapotec Indians for learning is pronounced.

The position of these prominent men in the Tzapotec village communities was not at all that of a manorial lord. The only record that I know of which makes special mention of land owned by a chieftain's

²⁰ Cochineal, Spanish *grana*, consists of the females of the *Coccus cacti*. These insects feed on various species of cactaceae, especially the *nopal* (*Opuntia coccinellifera*). The dye, mainly scarlet, crimson, and orange, has lost its commercial importance since cheap aniline dyes have come on the market. According to A. von Humboldt, Political Essay on the Kingdom of New Spain (English ed.; London, 1811), book 4, chap. 10, the average annual export of Oaxaca amounted at that time to a half-million pounds sterling in value.

family is the land title of Matatlan.²¹ But the land mentioned in this document as belonging to the families of the caciques is all mountainous and not used for farming. It was unsettled and therefore formed no source of income from tribute paid by Indian tenants. Elsewhere, as, for example, in the Mixteca, the Spaniards recognized in the early Colonial period the ownership rights of native chieftans to extensive estates, called *cacicascos*. The Indians living on these *cacicascos* had to pay tribute to their landlords in return for the use of the land. The Spaniards would certainly have followed the same procedure among the Tzapotec, had similar claims been presented.

In this way, therefore, conditions of land tenure among the Tzapotec differed from those of the neighboring Mixtecs. A post-Columbian Codex (plan 1; Appendix 1) in the Archivo General de la Nación at Mexico City proves that among this latter tribe there were estates of great importance, almost feudal in character. The particular one to which the Codex refers was founded five generations before the arrival of the Spaniards. It is an instance of an estate with village communities, and villenage upon it. The services of the tenants, or *terrasgueros*, were clearly defined. They consisted of payments in kind and labor. The contrast to the free village community of the Tzapotec is striking. Whether or not the Mixtecs ever had a similar organization remains an open question. If they did, at least it is certain that it had degenerated into communities in serfdom before the arrival of the Spaniards.

Many of the *cacicascos* have persisted up to the present time. On all of the ancient ones the land is still worked by Indians called *terrasgueros*. These *terrasgueros* cultivate the same fields generation after generation. They are obliged to pay tribute to the caciques and to render certain service. The Spaniards considered the *cacicascos* to be the equivalent of their own noble estates, and consequently issued land titles to the caciques covering the amount of territory occupied by their tribute-paying Indians.

²¹ Land title of Santiago Matatlan, A.D. 1710, MS in the municipality of Matatlan: " . . . quedando dentro de los limites el sitio que tiene y posee Don Nicolas de la Palmera casique deeste cauciera nombrada Xagana. Otro nombrada el de lope perteneciente al capitan Don Manuel de Peñaranda, otro nombrada tepetel que poseen los herederos de D. Gabriel Ramirez casique de este pueblo. Otro perteneciente del casique Don Diego de los Angeles nombrado Xaisa y otro de Doña Andrea de Aguilar casica asi mesmo deeste pueblo y entre Norte y Oriente estan tres caballerias de tierra pertenecientes a los herederos de dicho, D. Gabriel Ramirez de Aguilar los quales con los expresados sittios queden y situan dentro de nuestros linderos y corren por la cima de los cerros que circunbalan nuestro pueblo"

Apparently not a single such *cacicasgo* existed among the Tzapotec, although they had caciques. An official from Zaachila (called Teotzapotlan by the Mexicans), an outstanding settlement and a stronghold of the Tzapotec, ruled in Macuilsochil.²² At Teotitlan²³ del Valle and Tlacolula,²⁴ prominent natives were governing when the Spaniards arrived. There is no allusion to the way in which these so-called native lords acquired their position. There is at least a possibility that they were elected by their fellow-citizens.

The *aldeas* were directly dependent upon the main town and had no authorities of their own. On the whole the administration of the Tzapotec communities was so excellent as to arouse the admiration of the Spaniards. "If there is any justice to be found anywhere, it is among these people."²⁵

Native economy in the Tlacolula Valley—

The people were chiefly farmers. Their fields, for the most part, were located in the fertile valley lowlands. Corn and beans formed the staple crops. Some crafts were also carried on, each village having its own particular type—a condition which still holds good. The men of Mitla were the traders of the region and are so at the present time. Teotitlán del Valle provided the surrounding country with woolen blankets or *serapes*, and still continues to do so, although this craft is seriously degenerating.²⁶ The ancient looms are still in use,

²² Macuilsochil is Mexican from *macuilli*, five, and *sochitl*, flower. Five Flowers was the Mexican god of music, dancing, and the drama. The original Tzapotec name is Giegilli, from *gie*, flower, and *gilli*, bunch (Asencio, Relación de Macuilsochil, 1580 in Papeles de Nueva España, *op. cit.*, 102: "El gobierno que tenían hera lo que les mandava el Señor del pueblo de Teoçapotlan, y por su horden obedescian a un Principal que el tenia en el pueblo, el qual les mandava lo que havian de hazer").

²³ Teotitlán is Mexican from *teotl*, god, and *tlan*, place. The Tzapotec name is Shagishe from *sha* or *shana*, below, and *gish*, mountain (Asencio, Relación de Teotitlan del Valle, 1580, *ibid.*, 106: "En este pueblo se gobernaban por su Señor Natural, al qual obedecían y en el rregir e mandar no avia mas horden de aquella que se les mandava e se les ofreçia").

²⁴ Tlacolula is Mexican of problematic etymology. The Tzapotec name was Giehiiba, from *giehi*, town, and *gieiba*, heaven (Canseco, Relación de Tlacolula, 1580 *ibid.*, 145: "Como se governauan; dizen que entre ellos avia un Señor natural del pueblo al qual obedecian, y este los mandava lo que avian de hazer").

²⁵ Santamaria y Canseco, Relación de Nexapa in *Papeles de Nueva España*, 34: "governabanse con tanta retitud que se puede con gran razon decir que si la justicia en alguna parte se guardaba y usaba era entre estos, por que entre ellos no auia hurtar ni tomar muger agena—la administracion del gobierno tenían tan bien ordenada que desde que naçia el niño se yba criando conforme a las leyes del gobierno."

²⁶ Burgoa, *op. cit.*, chap. 53, p. 257: "son grandes texedores de lanas, y hacen unas raxetillas de que se viste la gente pobre, y se lleva a todas partes."

but the vegetable dyes have been almost entirely replaced by cheap aniline substitutes. The simple old designs have also given way to more gaudy ones which appeal to the curio-hunting tourist. In one house I found a native weaver busy copying a rug design from a colored advertisement of a three-month-old number of *Vogue*. In Teotitlán, as in all other villages with regular crafts, there is not even the beginning of a guild system. Each family has its own loom. The men do the weaving, and then carry their own products to neighboring fairs. They even make long trips to the surrounding states in order to sell their blankets.

Near Guelavía,²⁷ the valley fill contains salt and nitrate—*tierras saladas* and *tierras amargas*. The inhabitants of the village have for centuries extracted the salt by a primitive method of leaching. Nevertheless the product obtained by a good worker is quite pure. Every family has its own little salt works and close to each hut stands a conspicuous pile of leached soil. Both the Tzapotecs and the Mijes got their salt from Guelavía. At present Pacific Coast salt is seriously competing with that of Guelavía, but the town is still flourishing, since most of its customers are extremely conservative and prefer the old-fashioned products.

Settlements in Tlacolua Valley—

The main town-like settlements were centers of both art and science. Mitla and Teotitlán possessed magnificent public buildings. Beautiful jewelry and extremely elaborate idols have been found. These ancient pueblos were in every way superior to the *aldeas*. They owned more land, their wealth was greater, and their civilization higher than was the case in the smaller communities. The Spaniards recognized the differences by calling them *pueblos viejos* as distinguished from the *pueblos nuevos*. The former were, of course, the first to obtain ownership of their land according to Spanish titles. Some of these land titles go back to the first half of the sixteenth century.

The establishment of the *pueblos nuevos* as such took place to a large degree later on in the Colonial period. In order to enable a dependent *aldea* to build its own church and have an independent parish, a title was granted for the land then occupied by its inhabitants. Today the natives still distinguish between *pueblos viejos* (*yedsh-góël*)

²⁷ Guelavía is one of the few settlements which has preserved its original Tzapotec name. It comes from *gélaa*, midnight, and *viaá*, he left.

and *pueblos nuevos* (*yedsh-kōb*). The inhabitants of the former are likely to speak slightly of the latter.²⁸

The amount of land granted to the new community by the old one was frequently not large, and often poor in quality, so that later on the *pueblo nuevo* encroached on *pueblo viejo* territory and lawsuits were started over border questions. The Ramo de Tierras of the Archivo General de la Nación at Mexico City contains many volumes filled with documents referring to such border disputes. According to those I looked at, the results were more or less similar. After both claimants of the disputed area had tried to prove their right to it by documents and witnesses, the Solomon-like decree of the Spanish authorities almost invariably divided the land in question into equal parts and awarded one to each pueblo. Since the *pueblos viejos* always have a greater population, and are seldom the aggressors in a case of this kind, they are usually the losers in the long run. Many a *pueblo nuevo* has thus grown in size and importance to equal the *pueblo viejo* of which it once formed a part. The distinction, however, in favor of the older community still persists.

Compact rural settlements were rarely formed by the Spaniards. As a rule they left the valley to develop in its own way. The *reducción* system, which caused such far-reaching changes in the native settlements in other parts of the New World, was unnecessary among the valley Tzapotec, since they were already accustomed to living together in compact settlements. It was only under exceptional conditions that the Spaniards founded villages in their territory. Analco²⁹ near Villa Alta was originally merely the place where the garrison was stationed as a protection against the Mije Indians. These troops, composed of Tlascaltec, became colonists. The village of San Lorenzo de Alvarradas in the mountains close to the eastern end of the valley of Tlacolula, on territory originally belonging to Mitla, is another exceptional case of a settlement founded by the Spanish. In these mountains there are some small and isolated stands of tree palms. The weaving of the palm leaves into baskets and *petates* (mats) was unknown among the Tzapotec of the valley and surrounding mountains. They bought such products either from the Tehuantepec Tzapotec or from the Mixtec.

²⁸ "Este es pueblo desde el tiempo de la Gentilidad y quando no se soñaba tal varrio de San Miguel"—ours has been a pueblo since heathen times, before anybody even dreamed of such a village as San Miguel—runs a statement of the *pueblo viejo* of San Pedro Caxones in a lawsuit against one of their *pueblos nuevos*, San Miguel Caxones (A.D. 1797, Archivo General, Tierras, vol. 847).

²⁹ Mexican; meaning, on the other side of the river.

The Dominicans, in order to take full advantage of the palm stands, imported skilled Mixtec workers and their families. This settlement prospered and its inhabitants still carry on their ancient craft. Lost within an alien neighborhood, they have given up their own language and speak Spanish. This community and that of Analco near Villa Alta are the only ones for miles around in which Spanish is the only language spoken.

Besides the *pueblos nuevos*, another type of rural settlement, purely Spanish in origin, became interspersed among the *pueblos viejos* of the valley. When the Spaniards arrived, there was still much fertile land unoccupied. The villagers cultivated the land close to their settlements for the most part, leaving the more distant fields untouched. These were frequently purchased by Spaniards, who built up rural estates—*haciendas* or *ranchos*. The pueblo of Tlacolula originally bordered on Mitla, whereas now the *haciendas* of El Fuerte, Don Pedrillo, and Tanivé separate the two communities.

Spanish influence soon became visible in all three types of settlements. Today the most impressive feature of each pueblo is its church. Many are solid stone structures of a rather fortress-like aspect. In the course of centuries all of them have been greatly damaged by earthquakes, and have had to be repaired or entirely rebuilt. The house type of the Tzapotec has also changed somewhat. Roofs thatched with straw are still numerous (pl. 19a), but the Colonial Spanish tile was accepted quite early. The absence of windows and doors on the side of the houses facing the street is a feature common to almost all Tzapotec houses in the Tlacolula valley (pl. 19b). Blank walls face the street and the houses are accessible only from the yard. Rows of *organo*, a chandelier cactus (*Pachycereus marginatus* D.C.), take the place of fences along the streets and between the yards.

The *haciendas* differ from the *pueblos* in many respects. The center of the *hacienda* is not the church but the large buildings of the *hacendado*. The Indians who work on the estate live in poor huts, for the most part. They are the descendants of inhabitants of the surrounding villages, and, according to the unwritten Indian law, own the land they work on, as do their more fortunate brothers in the *pueblos*. Long ago, however, a Spaniard established his right to the land, before anybody had cared to occupy it. His title is stronger than the Indian squatter right. In such cases, the Indian is a laborer without land, a *terrasquero*, who has to divide his crops equally with

the owner of the hacienda. The Mexican *movimiento agrarista* is at present active in expropriating haciendas and handing the land over to the neighboring pueblos. For the area under study, however, this problem is of little importance. The haciendas are comparatively few and not too large. On the other hand, most villages still have a surplus of land, so that some, like Teotitlán del Valle, even rent out their fields.

In the larger main valley south of Oaxaca the *movimiento agrarista* has been more effective. With the coming of the Spaniards, numerous haciendas originated there. These extended their land at the expense of the Indian villages and a large landless Indian proletariat has grown up in consequence. Zaachila, for example, which was the most powerful town of the Tzapotec at the time of the Conquest, has lost ground not only to several *pueblos nuevos*, but also to five haciendas. The present agrarian movement, intended to correct this situation, seems to be quite a normal reaction which should have sound results.

Under the old conditions, the Indian worked as a tenant on the land of the *haciendado*, and as a rule shared his crop equally with the proprietor. He occupied the fields as long as he desired, but under this system he was obliged to produce at least twice as much as he needed for himself.

Under the new agrarian laws, the situation has changed fundamentally. A federal commission has its headquarters in the capital of the state. To this commission villages bordering on haciendas can present their claims for land. As a rule, these have been met in a rather liberal manner. The federal commission expropriates part of the hacienda and turns it over as *ejido* to a local *comisión agraria*. The local commission administers the land according to true communistic methods. The newly acquired fields do not pass into the hands of the villagers as private property. According to a plan identical with that of the Russian *mir*, the fields are redistributed every year. Each villager may then present his claim to a piece of land before the local *comisión agraria*, but he has to prove that he can actually cultivate it. Fifteen per cent of his crop is turned over to the *comisión agraria*.

The results of this newly established agrarian commission are quite conspicuous in the landscape. The hacienda are partly dismembered, and for the most part in ruins. Whenever possible, the Indians naturally asked for good land which they could harvest without cultivating. The haciendas which have survived, in spite of having lost

their best fields, are careful not to develop the rest to such an extent as to arouse the greed of the neighboring villages. There is no limit legally to the expropriation.

There is every evidence, on the other hand, that, under the new communistic system, less care is given to the fields that have been taken from the haciendas than was formerly the case. The town of Zaachila, for example, is now surrounded by an extensive area that is neglected and covered with weeds. The reasons for this apparent decay are several. The old system put a pressure on the Indian to produce more than he consumed. In addition, it gave him a permanent interest in his land, for although it was not his property, he could occupy it indefinitely. This interest has disappeared, since the expropriated fields are redistributed each year. The Indian asks for only the best land. He has become unwilling to do anything to improve a field which he may have to turn over in a year to some one else.

The new system has worked not only material damage; the expropriation of the landed proprietors without any compensation whatever has taught the Indian to disregard the right of private ownership. If there is a legal means of laying hands on the fields of a *hacendado*, why not try the same trick on a fellow-villager? In the area under study there are few haciendas and therefore not many chances to apply modern ideas of agrarian communism. This region is likewise entirely safe to travel in. There is not a single soldier or policeman in the extensive area, and there seems to be no need for any. In the town of Zaachila, on the contrary, where the population is strongly "agrarista," there is a permanent force of federal soldiers, who from their barracks on top of the ancient mound, try to keep peace among the inhabitants.

Agrarian system of the Tzapotec

as compared with that of the Nahua—³⁰

I found a similar but still more extreme situation in the Nahua settlement of San Francisco Totimehuacan in the state of Puebla. The original agricultural organization of the Totimehuacan people,

³⁰ Bandelier, On the Distribution and Tenure of Lands and the Customs with Respect to Inheritance among the Ancient Mexicans, Eleventh Annual Report, Peabody Museum of American Archeology and Ethnology (Cambridge), 2:384-448. A thorough critical study of all historical data referring to the subject. Historical sources of the kind are scarce, however, and not always clear. The history of the Mexicans, like that of many other people, is largely the history of their wars and military life. The agrarian system was so commonplace and natural to the people that they gave little thought to recording it. This explains why such a characteristic feature of the Nahua tribes as the dispersion of their fields it not even mentioned in Bandelier's paper. The ancient distribution of the soil is not so obliterated as the author assumed. On the contrary, almost everywhere in the

who belong to the Nahua group, must have been identical with that of the Tzapotec. The same elaborate *paraje* system prevails, each *paraje* being divided up into several small fields belonging to different owners. Each *paraje* also has its own name—the older ones pure Nahua, some newer ones Spanish or Spanish and Nahua mixed. Rey-

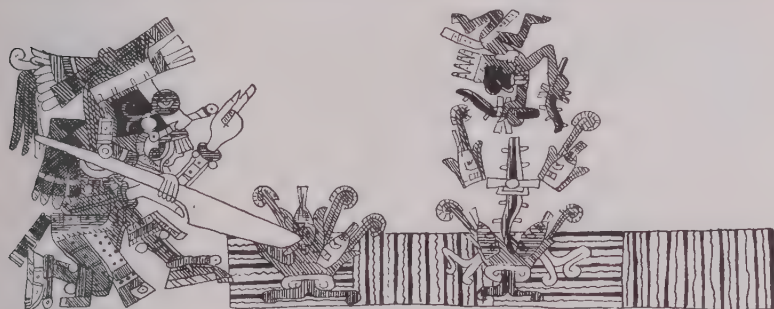


Fig. 3. The rain god *Tlaloc* represented as a farmer working in a cornfield with a hoe (*coa*, *coa-uacatl*). Lightning is striking a cornstalk. The fields show the typical shot and strip pattern.—Codex Borgia (ed. by E. Seler; Berlin, 1904), vol. 1, pl. 20.

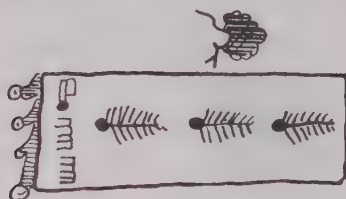
natla, the place of the king (*rey*) and Calerotla, the place where there is lime (*cal*) are instances of the latter type.

The complicated field system of the Nahua has even been recorded in native pictorial documents. Figure 3 represents *Tlaloc*, the god of rain.³¹ The Hoe (*coa*) before him is the characteristic symbol of a farmer. The ground on which he works shows four "shots" subdivided into strips. Cornstalks indicate the kind of crop.

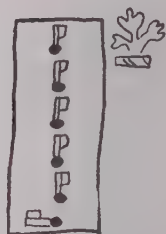
fields and villages, even close to Mexico City, one finds traces of the ancient agrarian system. Place names and maps showing the distribution of property furnish valuable evidence, throwing light on ancient conditions and acquainting us with the ideas of those times. G. M. McBride, *The Land Systems of Mexico*, Am. Geog. Soc. Research Series, no. 12 (New York, 1929), also fails to recognize such a basic fact in the land system of an important part of the native population as is the dispersion of their fields. His statements, in so far as they refer to the State of Oaxaca, are misleading. According to him (p. 146), there are in Oaxaca 180,288 heads of rural families. Of these, 179,789 are without individual property. "The vast majority of the rural inhabitants have no land which they can work or upon which they can live as their own." If this emphatic statement has any value, it is only that of demonstrating to what extent statistical data can be misinterpreted. Had the author reversed it, he would have come much closer to the truth. According to him, the 88 largest haciendas of the State occupy 769,048 hectares. There are besides 382 ranchos with less than a thousand hectares a piece, making a total of not more than 382,000 hectares. In all, this makes at the best 1,151,048 hectares in the hands of landed proprietors. The total surface of the State, according to the 1921 census, is 9,421,100 hectares. This would still leave at least some 7,269,052 hectares in the hands of the Indians. The explanation of figure 28—"Taviche, one of the few districts in the Oaxaca plateau that are adapted to agriculture"—is hardly surprising after the statements quoted above. Taviche is the center of a well-known mining district in an almost entirely agricultural state.

³¹ According to Seler, Codex Borgia (Berlin, 1904), 1; pl. 20.

Not only in symbolic representation does the typical field pattern appear. There are actual records in existence which show the form, size (fig. 4), and distribution of fields in certain *parajes* shortly before



Field in the *paraje*
Tecontliyacac.
30 x 1200 Varas






Field in the *paraje*
Huexoguappan.
20 x 100 Varas.

Field in the *paraje*
Tetzontitlan.
20 x 400 Varas.



Atlas Goupil-Boban
Pl 34.

Fig. 4. Three typical Aztec fields (*milli*), all of them in the elongated form of strips. The hieroglyphs on the outside stand for the names of the *parajes*.  = 5;  = 20;  = 400. Those inside are the dimensions in varas.

the coming of the Spaniards. Among the Mexican paintings deposited by A. von Humboldt in the Royal Library at Berlin is a sheet of agave paper (68 x 40 cm.) with designs and inscriptions which Humboldt described in his *Vues des Cordillères et Monuments des Peuples indigènes de l'Amérique* as the *Généalogie des Princes d'Azcapotzalco*. This interpretation is certainly wrong, and Seler's assumption³² that the document represents a *Flurkarte* comes probably much nearer the truth. The painting (plan 2) shows a body of water at the left. Parallel to it runs a road on which human footprints are visible. The

³² Die mexikanischen Bilder-Schriften Alexander von Humboldt's in *Gesammelte Abhandlungen zur Amerikanischen Sprach- und Alterthums-Kunde* (Berlin, 1902), 2:162-301.

land between road and river—the *paraje*—is divided into *milli* or strips. In the right corner of each strip the owner is portrayed, his name being expressed in the usual way by his own hieroglyph.

The map would seem to represent a *paraje* subdivided into individual fields. The character of the field pattern obtained shows a striking similarity to that of the *paraje del Monte* at Mitla (map 5). A comparison of the two *Flurkarten*—the one referring to an unknown *paraje* of the Aztec country, the other developed as late as 1883 in a Tzapotec village—suggests a close relationship between the Aztec and Tzapotec agrarian system. At the same time the two pictures demonstrate how deep-rooted and persistent this system is.

Totimehuacan: present-day agrarian situation—

Six churches and chapels, most of them now in ruins, indicate that Totimehuacan was quite an important place in the early Colonial period. Under the Spanish régime, ten haciendas were founded around Totimehuacan, all of them at least in part on land belonging to the ancient town. The population of this place has always been exclusively dependent on agriculture, and the encroaching haciendas reduced their cultivable area to such an extent that a large number of people are unable to make even a very modest living. Communal land has entirely disappeared, and more than half the population today owns less than one hectare of mediocre land to a family. This means extreme poverty, and every crop even slightly below normal brings distress to a large number of people. Under the new agrarian laws, Totimehuacan received an *ejido* of 1170 hectares. But the poorer people, who should have had the benefit of this land, were too poor even to take it under cultivation. They lacked the implements and the money to buy seed.

The situation finds a depressing expression in the landscape. Ruins of hacienda buildings surround the land of Totimehuacan, revealing the once flourishing character of the estates. Now large parts of the *ejido*, once cultivated by the haciendas, are invaded by weeds. Close to each cornfield (*milpa*), stands a small adobe mound from which a guard (*milpero*) watches the crop in order to keep the wretched people from stealing it. This condition is unknown among the Tzapotec and Mije.

The impoverishment of the Indian population must not be considered an inevitable phenomena to be checked only by such rigorous remedies as the modern agrarian laws. A harder working and more

intelligent people could doubtless greatly improve its own living conditions. The little colony of Chipilo, south of Cholula and not far from Totimehuacan, gives supporting evidence to this assertion. About half a century ago, a small group of Italian immigrants settled there. They devoted themselves mainly to dairying. They fertilized and irrigated their fields in order to maintain sufficient pasturage, and kept their stock in stables. The city of Puebla is an excellent market for their products. From a colony of poorest immigrants, Chipilo has grown today into the most prosperous rural community around Puebla. By buying small patches of land from their Indian neighbors, the Italians have extended their property considerably. Their clean, well built houses, inhabited by healthy families adequately clothed, are in striking contrast to the dilapidated settlements in the vicinity (pls. 21c, 35). In the beginning they were handicapped as compared with any Indian community that still had inherited land at its disposal. Because of greater energy, however, they were able to improve their condition and to an astonishing degree within less than two generations. Even the frequent revolutions of the last two decades have had no visible effect on their prosperity. They organized an armed force by means of which they protect themselves.

Cuajimalpa,³³ an Aztec settlement—

The closest parallel in the developmental history of the Tzapotecs and that of the Aztecs was revealed by a study of the puebla San Pedro y San Pablo Cuajimalpa, 18 kilometers southwest of Mexico City. This village is located in the hills which form a transitional belt between the high volcanic mountains surrounding the depression of Mexico and the ancient lake bottom which now forms its central part. Volcanic deposits mainly—tufa with intercalations of sediment—build up this hilly belt, strongly dissected by intermittent creeks running toward the once undrained basin of Mexico. At one time beautiful pine forests covered these hills (pl. 7b). A few still remain, some of which are well developed; e.g., the forests of the near-by Desierto de los Leones, now owned and protected by the federal government.

³³ The spelling and pronunciation of all Indian place names have undergone great changes. The first written record to mention this village is the Codex Cuajimalpa, 1534 (Archivo General de la Nación, Mexico, Tierras vol. 3684). It spells the name Guahuximalpan and Quauhximalpan. A map of the year 1759, *ibid.*, records Quaximalpa. Documents of the year 1865, *ibid.*, use the form Quauhsumalpan. The present-day spelling is Cuajimalpa.

There is hardly any other rural settlement in Mexico which has such excellent documentation for its early history. The Codex Cuajimalpa³⁴ throws light on the origin and growth of an Aztec village. The first picture (pl. 42) shows the natural landscape in which the settlement developed, a hilly country with a road leading to it. The Nahua inscription says that, within the area represented, a *paraje* was located called Quauhximalpan, which means the place where one cuts lumber. Evidently the fact that the village was originally only a lumber camp in the forest was still remembered in 1534.

Sheet 3 of the Codex (pls. 43, 44) represents an early stage in the development of the village. There are now eleven field units under cultivation, the names of them (pl. 45) and their owners being recorded. Five of these old names are still used for *parajes*, with slight changes in their spelling. The others could not be identified; they probably fall outside the land now belonging to Cuajimalpa.

The second page of sheet 8 (pl. 46) shows that the villagers had the same democratic government as the Tzapotec. The picture portrays a change of village officers—six new officials receiving the baton, or symbol of authority.

The last six sheets³⁵ describe in detail the area which the inhabitants of Cuajimalpa considered theirs at the time when they formulated the document (1534). In the years following much of this territory was lost to the Spaniards by viceregal grants. These grants were frequently very vague as to boundary delineations,³⁶ and border questions arose as the land increased in value. We owe the first exact survey of the land held by the village (pl. 47) to a lawsuit referring to a border dispute between the Indians of Cuajimalpa and the Augustinian padres who owned the neighboring hacienda.

The development of the field pattern around Cuajimalpa took place in a manner identical with that of the Tzapotec. New *parajes*

³⁴ *Op. cit.* The Codex consists of twenty-six sheets of maguey paper. The first twenty have colored pictures referring to the settlements history. Each picture has a short explanatory text in the Mexican language, but written in Latin letters. The last six pages are written records only. On sheet 5, the first arrival of the Spaniards is recorded.

³⁵ See Appendix 2.

³⁶ As an instance, there is the grant made by Viceroy Antonio de Mendoza at the expense of Cuajimalpa, June 17, 1538 (Archivo General de la Nación, Mexico, D.F., vol. 3684, Tierras, sheet 18). "Por la presente, en nombre de S.M. hago Merced a bos el Lic. do Diego Nuñez, vecino deesta ciudad de Mex^{co}, de una caualleria de Tierra, en el Pago de Guahuximalpan, linderos por la una parte el Arroyo, y parte terminos con Santa Fee y por otra parte otro Arroyo de el mismo pago y passa el carril por medio de la dicha caualleria."

were taken under cultivation, split up, and distributed among the villagers (map 3; fig. 5). The oldest members of the community still remember seeing the forest (pl. 7b) give way to the small *milpas* of the inhabitants. The entire *paraje* represented on plate 32 was forest land as recently as fifty years ago. The villagers were even energetic enough to extend their land farther at the expense of the neighboring

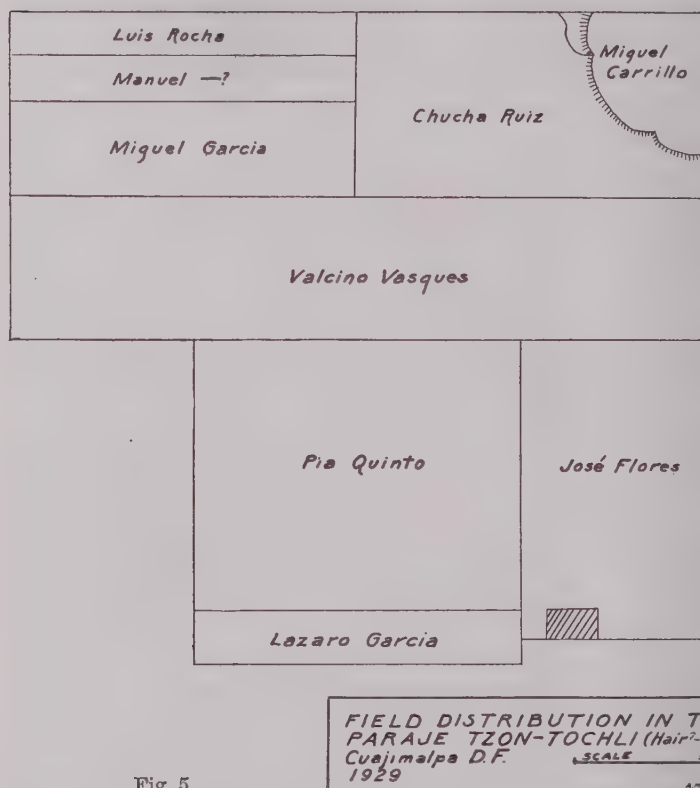
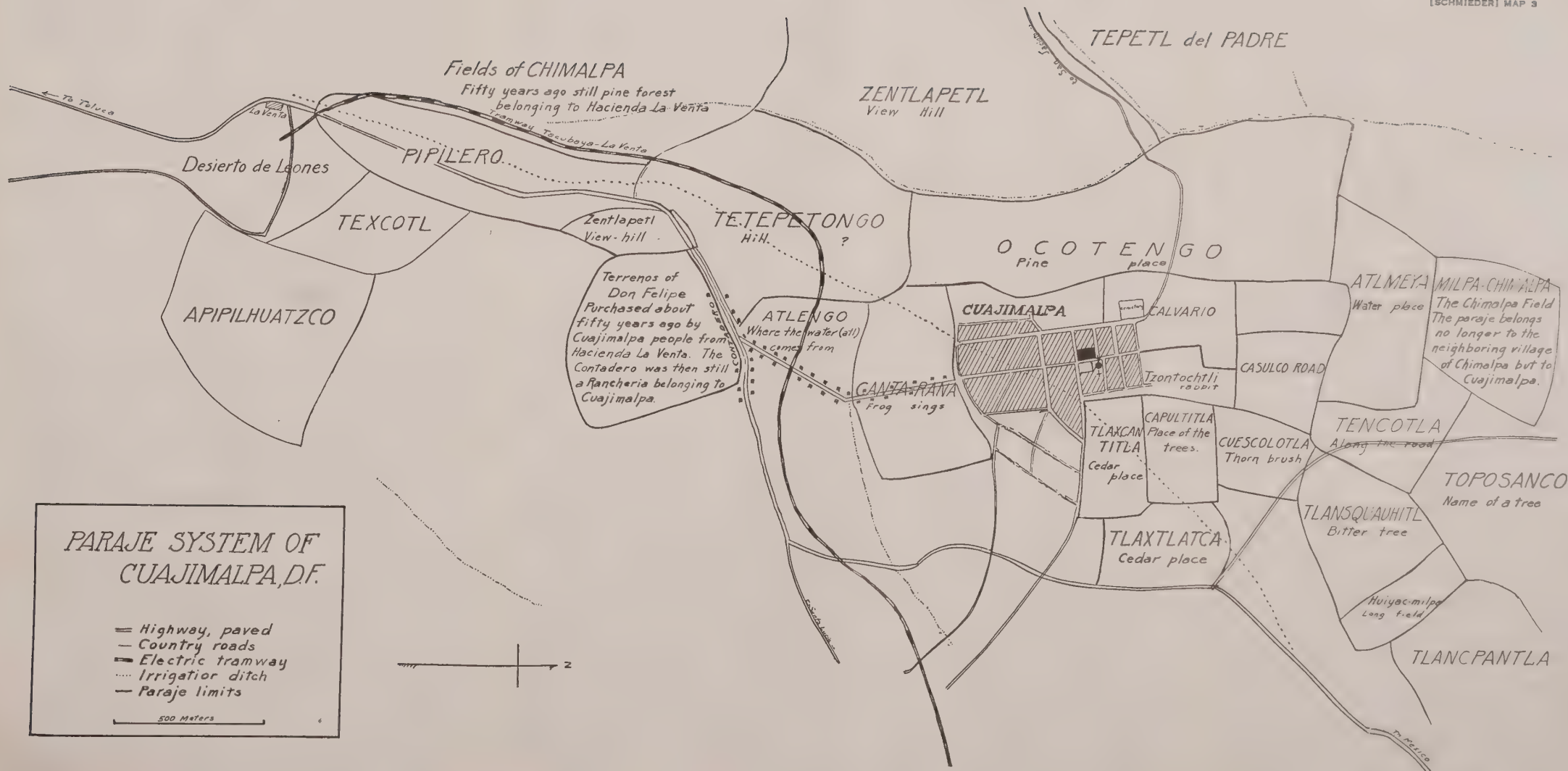


Fig. 5

haciendas, long before the modern agrarian reforms came into being. The *paraje* Don Felipe was purchased from the hacienda La Venta some fifty years ago and incorporated into the village. On these newly acquired *parajes* the same field pattern as elsewhere has developed.

In Cuajimalpa I heard of the first case of a villager who, on his own initiative, traded his small lots with other villagers, so that he finally possessed a single large field. Nobody else in the community has tried to change the old system of field dispersion, once so significant and



serving a definite purpose. From the modern agricultural point of view it is utterly uneconomical. The mind of the Indian is not only much too conservative to consider a voluntary change of the situation; he does not even realize that there is any other system which might be substituted for the one he knows. The case of the man mentioned above, who traded his scattered lots for a contiguous holding, was reported to me as the queer act of a fellow-villager. The Mexican Government, however much interested in the most drastic agrarian reforms, has so far taken no step comparable to the removal of a similarly obsolete condition by the English Enclosure Act.

The people of Cuajimalpa no longer own land in common. Even the uncultivated places within the village limits have been assigned in small lots as private property. I was unable to find out when this occurred. Even the forest and the worthless *parajes* are split up into very small holdings. As a consequence, new land coming under cultivation shows the same field dispersion, although the clearing of forests is no longer a community task, but is carried out by the individual proprietors.

MITLA,³⁷ A TYPICAL PUEBLO VIEJO

As in the case of all *pueblos viejos*, nothing is known about the foundation of Mitla. When the Spaniards arrived, the settlement had long since passed the climax of its development. Magnificent stone buildings were already falling to ruin³⁸ (pls. 12, 13). Well-preserved and powerful fortifications on a near-by mountain (map 4; pl. 14a), as well as less important ruins higher up on the slopes (map 4),³⁹

³⁷ The name Mitla is the Mexican Mictlan, spelled Miquitla in the older Spanish documents. Mictlan was the term the Mexicans gave to the place where the dead go. Early Spanish clerics misinterpreted it as "hell." Cf. plate 63 of the Codex Magliabecchi, facsimile in Zelia Nuttall, *The Book of the Life of the Ancient Mexicans*, part 1 (Berkeley, 1903). The present-day inhabitants of the villages have almost forgotten the Tzapotec name, *Lyo-bää*, although the Tzapotec of the surrounding villages and even the Mije Indians still use it.

³⁸ The ruins of Mitla have often been described. The first rather casual account was that of Fray Martin de Valencia, 1533. Cf. Fray Toribio de Benavente o Motolinia, *Historia de los Indios de la Nueva España*, Trat. 3, chap. 5. For an exact description see Bandelier, *op. cit.*; also G. Dupaix, *Antigüedades del Pueblo de San Pablo Mitlan in Kingsborough, op. cit.*, illustrations in 4, nos. 78-95, text in 5:253-268; Désiré Charnay, *The Ancient Cities of the New World, being voyages and explorations in Mexico and Central America from 1857-1882* (English translation, New York, 1888), 500-512; Seler, *Les ruines de Mitla, in Guides des excursions du X^e Congrès géologique internationale* (Mexico, 1906); A. García Vega, *Mitla in Estado actual de los principales edificios arqueológicos de México* (México, 1928), 133-159; I. Marquina, *Estudio arquitectónico comparativo de los monumentos arqueológicos de México* (Mexico, 1928), 76-78.

³⁹ Santamaria y Canseco, *op. cit.*, *Relación de Mitla*, 1580, 153, mentions four fortresses used as shelters by the inhabitants of Mitla and its depending villages: "Tienen en este pueblo e sus aldeas quatro fuertes o peñoles çercados, donde se recogian en tiempo que andauan en sus guerras."

indicate that the Mitla people, not so long ago, had been in need of defending themselves against an aggressive enemy. According to an existing pre-Cortesian codex, the Mexicans conquered Mitla in the year "two rabbit" (1494).⁴⁰ It is doubtful whether the fortifications of El Fuerte of Mitla were erected during this war with the Mexicans. This assumption would make El Fuerte a comparatively recent foundation. But the place itself and the adjacent level surface of the hill are so covered with potsherds that only a long occupation can account for them.

The Spaniards found the village of Mitla close by the ruins.⁴¹ The houses were built of adobe, thatched with straw, and as early as 1580 many of the owners had Colonial tiles.⁴² The village owned extensive forests, providing lumber for its buildings,⁴³ and full of game as well. The first record of economic activities of the inhabitants makes it clear that besides being farmers, the Mitla people devoted themselves especially to small trading,⁴⁴ as they do to this day.

Politically Mitla seems to have formed a rather independent community. It was supposed to belong to Teozapotlán (Zaachila), but this bond was apparently only nominal. The people of Mitla paid no tribute, merely complying every few years with the formality of sending gifts of fowl and honey and a delegation which plowed and sowed a cornfield.⁴⁵

During the Colonial period, so far as our knowledge goes, no native feudal lord presented any claims of ownership to the pueblo of Mitla and its territory. The Spaniards granted the first land title in 1549 to the *Naturales y Común* (the natives and the community) of San Pablo de Mitla. The original of this was lost when the authorities of

⁴⁰ Codex Telleriano-Remensis in Kingsborough, *op. cit.*, 1:22, and 5:153.

⁴¹ Santamaria y Canseco, *op. cit.*, Relación de Mitla, 1580, 151: "ai en este pueblo de Miquitla dos edificios de la mayor grandeza y nombre que ai en esta Nueva España: estan sitiados a un tiro de arcabus del asiento del propio pueblo, hazia la parte del norte."

⁴² *Ibid.*, 150: "Hazen los naturales sus casas de biuiendo (*sic*) de adobes, las paredes cubiertas de agütea, e otras cubren de paxa."

⁴³ *Ibid.*, 150: "Tienen muchos montes de que pueden sacar madera y la sacan para sus hedificios . . . "; "Crianse en el monte tigres, leones, lobos, adiuues, 'piçotes,' ques del tamaño e hechura de un gato: ay . . . palomas, liebres, conejos, venados y esto en cantidad."

⁴⁴ *Ibid.*, 153: "Los tratos e contratos que tienen es que van fuera de sus casas y pueblo con cavallos de carga, e lleuan sus grangerias a otros pueblos como es el sal e agi e otras cosas de menudencias."

⁴⁵ *Ibid.*, 149: "Hera este pueblo en tiempo de su ynfielidad del Señor del pueblo de Teocapotlan, al qual rreconçian por tal; no le tributavan cosa ninguna mas de que algunos años les yuan a su pueblo a hazer una sementera de mahiz e le presentauan gallinas e miel."

Mitla sent it to Mexico City⁴⁶ sometime in the eighteenth century. It is impossible to delimit exactly the surface awarded to the community and the natives of Mitla in the first Spanish title. The area was certainly a very extensive one. In the west, Mitla bordered directly on Tlacolula.⁴⁷ The inhabitants of the two pueblos were not in accord as to the position of the border line until 1553, at which date representatives from both communities came to an agreement.⁴⁸ The line fixed upon in that year is recorded on a manuscript map in the possession of the Mitla municipality (cf. note 47).

In the direction of the less valuable and more sparsely settled mountains to the north the territory of Mitla extended much farther within the limits of the valley than toward the west. In 1580 the length of Mitla from north to south was given as sixteen *leguas*—approximately seventy kilometers.⁴⁹ Eleven *aldeas* were dependent

⁴⁶ See the MS in the possession of the municipality of Mitla, issued by Don Francisco Antonio de Chavarru del consejo de Su Majestad, su oydor Decano en la Real Audiencia de esta Nueva España y Juez Privativo de Ventas y Composiciones, etc., dated México, Sept. 7, 1761. According to this document, the right of ownership of the "Naturales y Común de San Pablo de Mitla" to their land was certified. In the application for reinstatement, the Mitla witnesses declare: "habien-donos acaecido que en el camino de México nos robaron los titulos que teniamos y en cuya virtud poseyamos las tierras asi deslindadas con la ocasion de remitirlos para el seguimiento de un litigio que tenemos alli pendiente con el expresado sitio de Don Pedrillo."

⁴⁷ The municipality of Mitla possesses a map painted on pigskin and dated Madrid, November 4, 1791. The author, Josef de Villafañe, states that he drew it "con acuerdo a los documentos y titulos de el pueblo de Mictla." It shows the western border line directly touching the territory of Tlacolula, with a note explaining that this line was fixed in 1549.

⁴⁸ Cf. the MS referring to the lawsuit in vol. 485, part 1, of the Ramo de tierras, in the Archivo General in Mexico City. "En el pueblo de Tlacolula . . . a catorze dias . . . del mes de octubre de mill e quientos e cinquenta e tres años ante el . . . alcalde mior. por su magd . . . parecieron . . . yndios caciques e prencipales del pueblo de Mitla, e . . . yndios gobernadores e principales deste pueblo de Tlacolula, los quales . . . dixeron que ellos an tratado pleyto . . . de que se les a seguido grandes gastos e diferencias e que agora heran convenidos . . . se quitar de pleytos e diferencias . . . porque asi conviene al dro. y utilidad de los naturales de los dhos. pueblos."

⁴⁹ Santamaria y Canseco, *Relación de Mitla*, 1580, *op. cit.*, 148: "Tiene este dicho pueblo las aldeas siguientes:

- el pueblo Sabaje, y por abocacion Santiago.
- el pueblo Quellabilla, San Balthazar.
- el pueblo Lanza, San Francisco.
- el pueblo Lachabize, San Lorenzo.
- el pueblo Toagui, Santa Ana.
- San Joan Quelaa.
- San Andres Quiazueche.
- Santa Maria Lachiato.
- Santo Domingo Cuilapa.
- San Miguel Cungeche.
- Santa Catalina Paquiee.

Los quales sujetos corren norte sur diez e seis leguas en una serranias asperas donde estan poblados; estan distantes de la cabecera a legua e quatro, e lo mas lexos a ocho; tiene por cercanias los pueblos de Nexapa, San Elefonso, con sus comarcas."

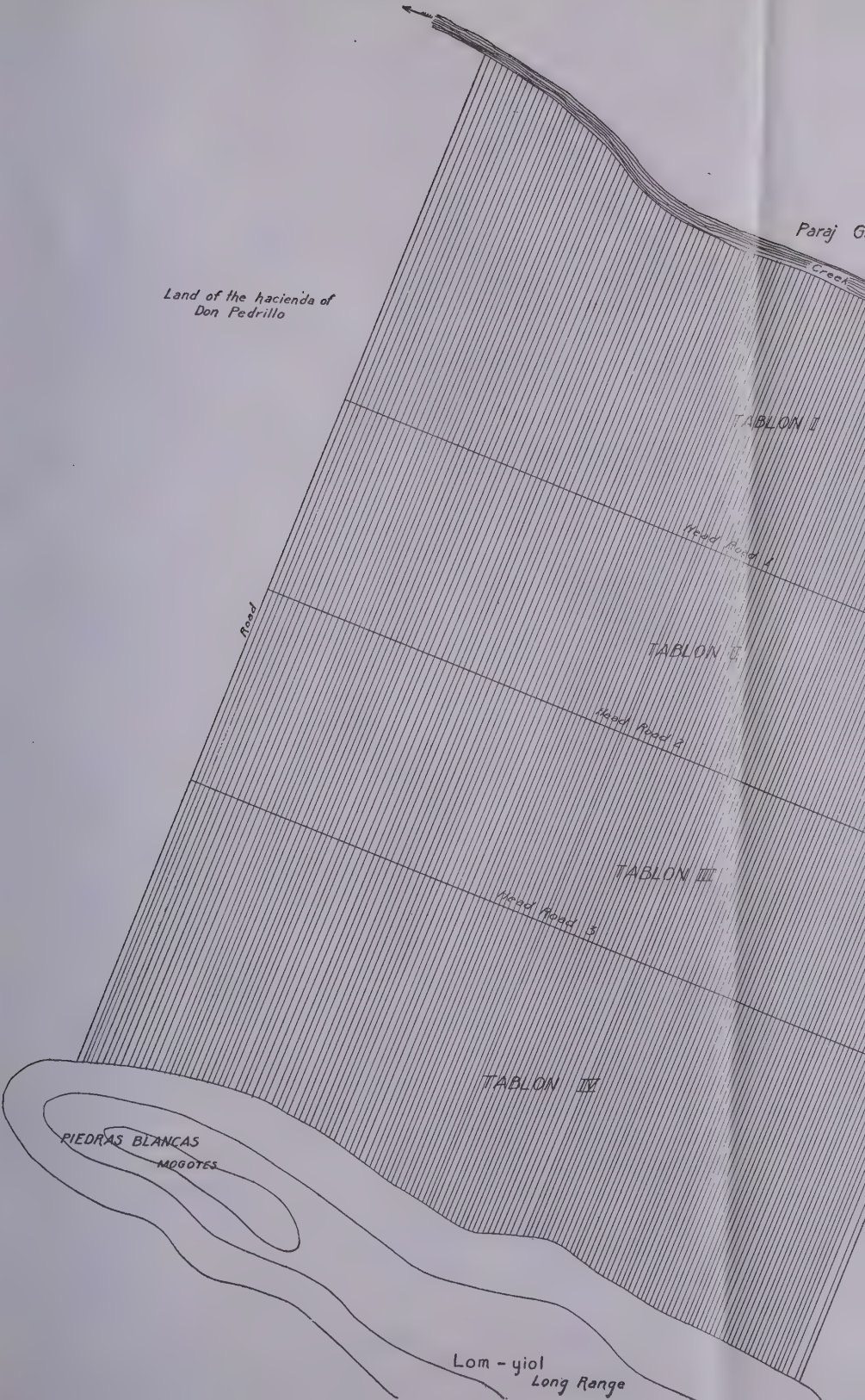
upon the pueblo at that time. By 1719,⁵⁰ however, the community had lost large parts of its territory, (1) All the *aldeas* became independent. This change from dependent *aldeas* to independent *pueblos nuevos* had only judicial and administrative significance, however. The inhabitants had always owned their land by right of occupation, and by 1719 they had been granted titles to what was already considered as their property. The situation had therefore merely been adapted to Spanish law. (2) Mitla also lost part of its territory to newly formed haciendas, those of Xagaa, El Fuerte, and Don Pedrillo, which consisted entirely of Mitla territory, and that of Tanivé at least in part. I have not been able to lay hands on the documents referring to the formation of these haciendas; Xagaa is mentioned first as belonging to the Dominican friars. Since the first title of Mitla (1549) was issued prior to this development, the haciendas can have originated only by the sale or donation of land by the commune of Mitla. As will be shown farther on, the land which early passed from Indian to Spanish ownership was still uncultivated. Even on the fertile valley floor the Indians farmed only a small area close to the village itself. This sufficed for the less numerous population of that period. There existed then an uncultivated zone covered with natural vegetation between the Mitla fields and those of Tlacolula, and it was this land which passed, at least in part, into the hands of individual Spaniards, or to such groups as that of the Dominican monks. It took a long time for the fields of Mitla to reach those of the neighboring haciendas. Along the border of the Hacienda Tanivé and the Hacienda Don Pedrillo the very year can be determined (1883) in which the Mitla fields reached those boundaries.

Field pattern and place names—

Map 4; plate 31

The actual distribution of the fields of the Mitla people seems to obey no law and to be utterly contrary to any efficient system. The complete irregularity of the field pattern is one of the most typical features of the cultural landscape of the valley.

⁵⁰ In this year the people of Mitla received confirmation of their ownership rights. The MS document contained in vol. 485, part 1, of the Ramo de tierras in the Archivo General in Mexico City gives a description of the boundary stones by a government official: "Sn. Pablo Mitla en ocho dias de el mes de marzo de mill setesientos y dies y nueve años, D. Joseph Ladilla y Estrado, Alcalde Maior de esta jurisdiccion . . . para poner en ejecucion el amparo de possession que tienen pedido los oficiales de Republica de esta dha. cavezera de las tierras de su comunidad . . . mande . . . me guiasen y pusieren en los paraxes, terminos y linderos de las que así gosaba dho. común y naturales de el." The majority of the places mentioned in the document I was unable to locate, although the authorities of Mitla assisted actively in the task.



Land of the hacienda of
Don Pedrillo

TABLON I

Head Road 4

TABLON II

Head Road 2

TABLON III

Head Road 3

TABLON IV

PIEDRAS BLANCAS
MOGOTES

Lom-yiol
Long Range

Almost without exception, every family has full ownership rights in some land with the privilege of disposing of it by sale, donation, or inheritance, and depends upon this land, at least partially, for a living. The amount of land varies. Some families, by thrift and intelligent work, have been able to increase their holdings, while those of others have dwindled. No one's property, however, is all in one piece. Map 4 shows the amount of land owned by Cenobio Moreno, a well-to-do resident of Mitla. His land is split up into eight minor units, scattered over Mitla territory.

The historical development of this type of field pattern cannot be traced from the beginning, but the last phase occurred so recently that many elderly people are still living who remember taking part in it. Besides this, there exists a document which describes in detail what happened.⁵¹

As far back as the early eighties of the last century the western limit of cultivated land did not yet extend to the boundary of Mitla. There was still about a square kilometer of fertile land covered with natural vegetation (*Monte*) between the Mitla fields and the haciendas of Tanivé and Don Pedrillo. This was called *el terreno* or *el paraje del monte*. Since there was some danger that the government would appropriate this as permanently unoccupied land, the community of Mitla resolved to bring it under the plow. All the men helped to clear it, and then the *paraje del monte* was divided into equal parts, called *tablones* (map 5). The two middle *tablones*, at least, were quadrangles, one kilometer long and two hundred meters wide. The outer *tablones* were of equal length but varied in width, and they were separated by roads. Each *tablon* was subdivided into strips, or *fracciones*. In the interior *tablones* each *fracción* was ten furrows (*surcos*) wide, making it equal to seven and a half *varas*, or six meters. The length was always two hundred meters. In the two outer *tablones* the *fracciones* were laid out in slightly different shape, varying with the width of the larger division, but always equal in area. The lots so obtained were distributed among the Mitla families as their own property. This original division has since been greatly changed by purchase, sale, and inheritance, some families having accumulated several *fracciones* of the *paraje del monte*, and others having lost theirs.

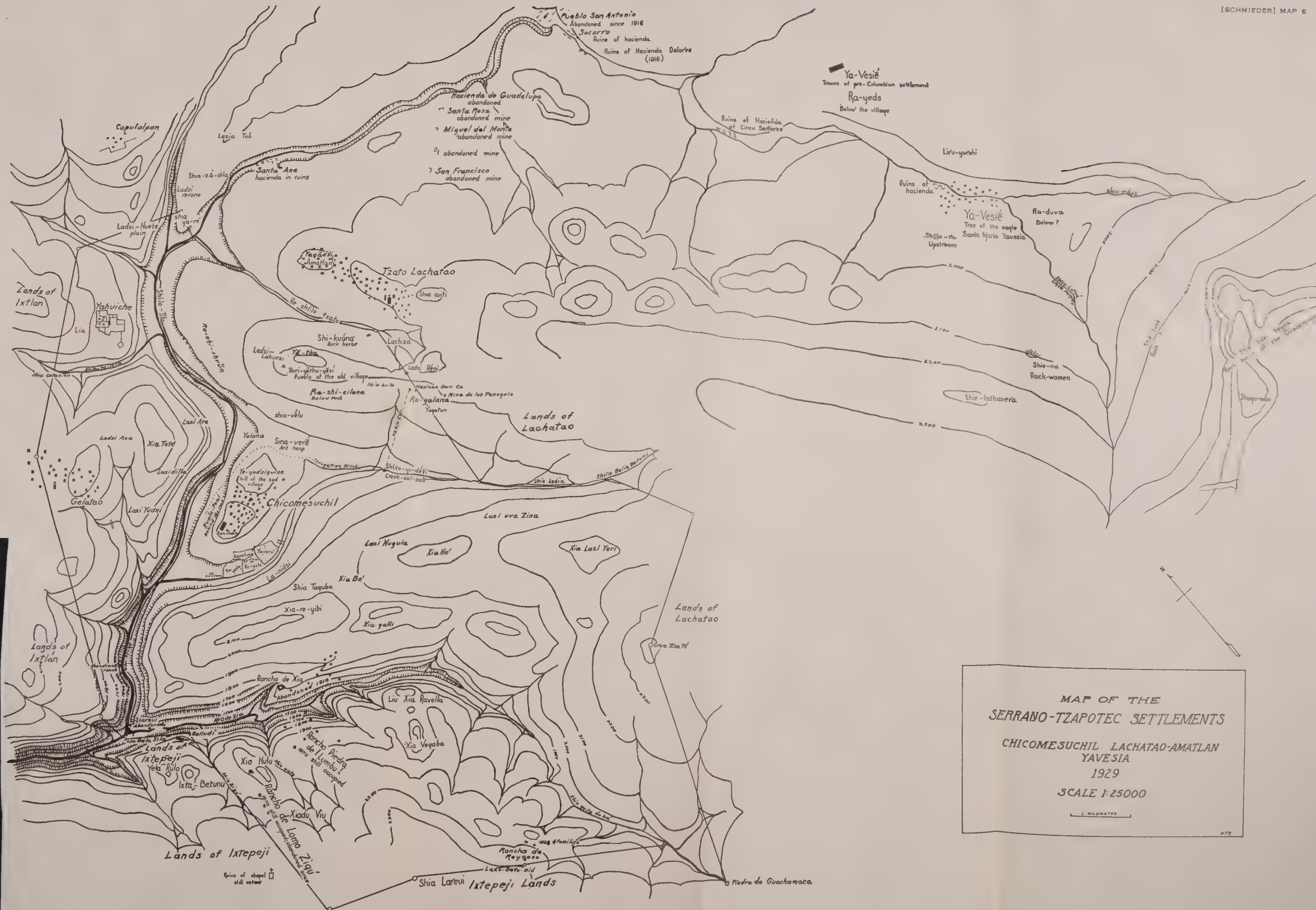
⁵¹ El reparto del terreno del Monte, 1883. MS in the possession of the municipality of Mitla.

Investigation of the Mitla fields reveals the existence of an ancient framework of *parajes* (cf. map 4) from which all later subdivision of fields can be traced. The bearing of the *paraje* system on the present-day field pattern is well illustrated by the *paraje del monte*, and the importance of its recognition hardly needs farther emphasis.

Each *paraje* has its own name, which is still in general use to determine the location of a field. The *paraje* most recently developed has a name that is quite Spanish (*paraje del monte*). Adjacent to it on the east lies the *paraje* Ro-munt. *Ro* is Tzapotec for edge or border, and *munt* is a corruption of the Spanish *monte* or woodland. The name, Edge of the Wood, was evidently coined during the Spanish period. This *paraje* was not under cultivation in pre-Columbian times.

Closer to the settlement, pure Tzapotec *paraje*-names prevail. Many of them are so ancient that their original meanings have been lost. At least two changed their names in the early Colonial period. The *paraje* Ylegi-do (place of the temple) was evidently destined for the location of the church, and the *paraje* Yeg-shu-yan (land of the saint) was, as the older people will tell you, worked by the community and its produce given to the church. When all contributions became payable in cash, this *paraje* passed again into private hands.

In the mountains north and south of the fertile valley floor there was not enough good land to warrant a common effort to cultivate it. This region therefore remained community property. Such a situation is characteristic of all of the Tzapotec settlements with which I became acquainted. Good land is everywhere privately owned and has been since ancient times. That it is so by squatter right in Indian fashion, and not according to Spanish law, by right of title, makes no practical difference. The Indians mutually respected, and still respect, their squatter rights. I did not find a single case of trouble arising over the possession of a field among Indians of the same community. All the numerous lawsuits were between different communities, the cause in every instance being a conflict between the unwritten Indian squatter right and the Spanish legal title. Wherever inhabitants in one village occupied land which belonged by Spanish right or title to a neighboring community, although the latter had no use for it, a lawsuit was always threatening. Both parties would be in the right—one according to Indian law, and the other according to Spanish law.





Only a few Mitla families with insufficient land in the valley have taken advantage of the small patches of good land in the mountains (map 4). This does not indicate a lack of interest in their mountains on the part of the people as a whole. On many excursions, when groups of them accompanied me, I was much impressed by their extremely detailed toponomy (map 4). Only a people which has occupied its living room for many centuries can become identified with it to such an extent. Not only has each creek, hill, or slope its own name, but every conspicuous rock, cliff, bluff, and cave as well. The accompanying map does not do full justice to the native toponomy. It would require a much longer period of field work and a map on a much larger scale to record the endless number of place names in current use among the people.

Many of these mountain place names are evidently very ancient, and, although they are in everyday use, they have lost their meanings. But the great majority of them are still clear in present-day Tzapotec. Most of them are purely descriptive: Yē-gila-visih, Eaglehead Peak; Lads-ro, the Great Plain; Geo-na-logol, Dead Man's Creek; Geo-ro, Great Creek; Geo-nis-dan, Strong Water Creek; Gi-shnin, Red Rock; Gi-gush, Smocked Rock. Quite a few place names are corrupted Spanish. In particular there are the words *lom* for the Spanish *loma*, *ladér* for *ladera*, and *munt* for *monte*, and many others forming parts of place names.

Most significant are some names referring to the original vegetation. Close to the spot where the Geo-ro enters the main valley there is a place named Nis-ya-yagsín, Spring of the Oak Wood. Two kilometers north-northeast is the Ro-ya-yed, Edge of the Pine Forest. But all high forest growth has disappeared from the hills north of Mitla. Only in the Dain-ro, the Great Mountains, to the extreme north, are there still large stretches of mountain forest, mostly oak. The edge of the pine forest lies at present far to the northeast of Mitla territory.

These two place names, Nis-ya-yagsín and Ro-ya-yed, indicate important cultural changes in vegetation. As a matter of fact, only on the top of the Dain-ro, accessible with great difficulty, is there preserved the remainder of the climax vegetation. The older inhabitants of Mitla can remember the time when good timber could still be obtained on the mountain slopes near the settlement to the north. For centuries Mitla people took their fuel and timber from this for-

est reserve, without making any attempt at reforestation. The amount taken increased considerably with the coming of the Spaniards. The latter introduced the heavy-tiled and the *azotea* roofs, instead of the light grass thatching of the natives, and at the same time they brought instruments which made for more efficient destruction of the forest. The *azotea* roof in particular, flat bricks supported by beams, requires an excessive amount of timber. The old adobe house of the Quero family, for example, on the plaza in Mitla, has over a thousand good-sized oak beams (*Encino colorado*) to support its roof. To build one such structure must have meant the destruction of a fairly large oak grove. Thus it is not surprising to find such places as Spring of the Oak Wood and Edge of the Pine Forest with nothing but chaparral growing there now.

Development of the settlement—

It is hard to imagine what Mitla looked like during its Golden Age, although the splendid main ruins have often been described. Besides the vestiges of several larger buildings (pl. 13*a*, *b*) there are also in the neighborhood some cross-shaped subterranean vaults. All of them illustrate the same fine Mitla masonry. There is one under the present buildings of the Hacienda Xagaa, and another on the mountain called Vasu-lyōb (map 4; pl. 12*a*), both places having once been Mitla territory. North-northeast of Mitla the ancient quarry is still to be seen from which came the white trachyte for their construction (pl. 12*b*).

An adobe pyramid stands a short distance west of the main ruins (pl. 14*b*). Several so-called *magotes* still exist in Mitla fields (map 4). These apparently formed the mound-like foundations for structures which have since disappeared. One, torn down recently to furnish stone for the highway, was built entirely of boulders cemented together with adobe. On the top of it were vestiges of a pavement.

The Mitla ruins are in a much better state of preservation than those of Monte Alban, for example, and this is certainly due, in part, to the climate. There is a noticeable climatic difference between Oaxaca and the eastern end of the valley of Tlacolula. Mitla being more arid, less damage has been done to its old buildings.

When the Spaniards arrived, the ruins lay a little to the north of the settlement.⁵² The first addition the invaders made to the

⁵² Santamaria y Canseco, *Relación de Mitla*, 1580, *op. cit.*, 151.

ancient Tzapotec Lyo-baa was a church which they built in the heart of the settlement on what is the plaza today. The foundations still exist of a part of the building which now serves as a market for the women of Mitla. I was unable to find out why this church was abandoned and a new one erected elsewhere. The second church was built directly over the northern part of the main ruins. The Christian building used the walls of the ancient Tzapotec construction as a foundation; an example of the combination of two types of architecture seldom to be found in the New World (pls. 11, 14a). The Dominican monastery at Cuzco is the nearest counterpart.

The houses of the inhabitants (pl. 19a, b) also underwent changes due to Spanish influence. Tile and *azotea* roofs appeared, in addition to those thatched with cornstalks. The adobe houses were larger and higher than the native huts whose places they took. Some of them were very spacious indeed. Today the two stand side by side—primitive huts and well built, whitewashed adobe houses. Some of the latter are even furnished with electric lights, the current being provided for the community by a privately owned generator.

For the rest, the Spanish influence on the ancient Tzapotec settlement has been slight. Racially the inhabitants have remained pure. They are small and slender, frequently very good-looking. I know only a single instance of a white settler in the pueblo, who married into one of the wealthier Tzapotec families. Tzapotec is still the current language, although most of the men speak Spanish as well. A few traders also speak Mije as a third language. The fact that many of them travel about as merchants explains why they are better linguists than most of the other Tzapotecs.

Mitla is entirely independent as to its government. Its organization is essentially democratic and impressed me with its very high standards. The question of whether this condition antedated the Conquest or not interested me greatly. It is hard to believe that sixteenth-century Spaniards raised in a country still dominated by a noble hierarchy could have given the Tzapotecs the high type of democracy and the democratic spirit which they possess. The Codex Cuajimalpa records an almost identical system for a pre-Columbian Aztec settlement (pl. 46).

The governing officers of the pueblo are elected for one year every first of January. Married men over eighteen, and bachelors over twenty-one have the right to vote. Everyone who is elected serves

without pay, work done for the community being *ad honorem*. The officers consist of the *presidente municipal*, a *síndico procurador*, two *regidores*, each of whom has particular tasks, such as road construction, schools, etc., a *secretario* who keeps all official records, in particular births, marriages, and deaths. The young men of the village take turns as policemen, serving in three sections, eighteen at a time for a fortnight. For any work such as building schools and roads, mail delivery, etc., the president is authorized to call upon the required number of men. For routine work there are always several men, called *topiles*, on duty. I had frequent opportunities to be convinced that this system of unrecompensed labor for the community worked without the least bit of friction.

The influence of the pueblo's authorities, moreover, goes far beyond the mere work of administration. All minor difficulties are brought before them. A drunken man, for instance, may be sent to jail, or put to work. I saw cases of adultery, of disobedient children, of difficulties over commercial transactions judged by the authorities, whose decisions are always accepted as final by those concerned. Anyone who disregarded them would have the whole village in arms against him.

In their social relations, the people of Mitla still retain a complicated system of formalities. Whenever two persons meet, the one more distinguished by position or age receives a deep ceremonial bow and a kiss on the hand from the other (pl. 27a). In this respect there is no sex distinction. The younger men kiss the hands of older women, particularly of their relatives, and women must kiss the hands of men in official positions. A fine tact is observed in the exchange of these formal salutations. When, for example, an old man has paid his due respects to a younger man who holds office, the latter invariably returns the courtesy. There can scarcely be any doubt that this ceremonial greeting is an ancient Tzapotec custom which has persisted to the present day. It is quite a contrast to the formless handshake which is the only salutation of the neighboring people, the Mije.

The Mitla Tzapotec have preserved other things besides the mere formalities of an ancient civilization. In spite of the meager instruction which they receive, many of them are remarkably well informed. Whatever subject came up in our conversation aroused their lively interest. Questions about their own history and culture were discussed in almost a scientific spirit. I have the most pleasant recollections of many an hour spent in their company, a striking contrast

with my reactions to the Quechua Indians, heirs to the Inca civilization, during a similar study made in Bolivia.

Well established conventions rule all social relations. Not all the married couples of Mitla have been united by a legal or religious ceremony, but the ancient marriage customs of the Tzapotec are invariably obeyed. When a young man decides on the girl he would like to marry, he entrusts the affair to a *veds-gō*, or matchmaker, who goes to see the girl's father. The father then consults with his daughter, and if she accepts the proposition the union is considered a proper one by the community. Whether it is registered according to law or sanctioned by the church makes no difference. The children of such a marriage bear their father's name, and there is no trouble about inheritance rights. The influence of the church is negligible.

There has never been a doctor in the settlement, nor does anybody think of consulting one. Medical treatment is entirely in the hands of a few women who make use of different plants. The standard remedy for all ills is the *yaa* (*temazcalli* in Mexican), the sweat-house (pl. 28a).

Data available to show the numerical development of the population are scarce. For 1746⁵³ the number of families was given as 150, possibly 750 inhabitants. The present population is 2007.⁵⁴ These data would indicate a rather important increase, particularly when one considers that the *pueblos nuevos* must have been a drain on the ancient settlement. At present the movement from the *pueblo viejo* to the *pueblos nuevos* has come to an end. Present-day Mitla has only one ranchería (map 4), composed of fifteen families. In course of time this may also become an independent pueblo, but there is no other important emigration to further diminish the number of the inhabitants of Mitla. Yet in spite of the fact that emigration of any kind hardly exists, the population seems now to be rather stationary. There is certainly no conspicuous sign of any recent increase. High infant mortality probably accounts for this fact. There seems to be no knowledge at all of birth control,⁵⁵ and voluntary abortion is rare.

⁵³ J. A. de Villa-Señor y Sanchez, *Theatro Americano* (Mexico, 1746), vol. 2, lib. 4, chap. 13.

⁵⁴ Censo General de Habitantes, Nov. 30, 1921, Estado de Oaxaca, Mexico (1927).

⁵⁵ The recorded questions of an old Tzapotec confessor seems to contradict this statement. Cf. A. Peñafiel, *Lengua Zapoteca* (Mexico, 1887), 98 ff.: "cuando cohabitaste con tu mujer o con otra apartaste tu cuerpo para que no entrara tu semen dentro del vientre de la mujer, para que no quedara preñada?"

"Has aconsejado a alguna mujer preñada que beba algun bebedizo o veneno para abortar o malparir y muera la criatura?" I rather doubt, however, whether these questions indicate the existence of well established customs among the Tzapotec. They may just as well have been the results of a priori assumptions.

Economy of a Tzapotec pueblo—

The last four centuries have seen but slight changes in the economy of Mitla. The inhabitants still depend first on agriculture for a living. Their crops too are practically the same, with corn still the chief staple. I should estimate that some 98 per cent of the area under cultivation is given over to cornfields. Of course the agricultural implements have been somewhat improved. Copper hoes (*coa*, *coa-uacatl*), which are still found in large numbers in the fields and around the ruins, have gone entirely out of use. Iron hoes and wooden plows drawn by oxen have taken their place (pl. 29a, b). Not a single modern steel plow is in use, and the plowing itself is extremely superficial and inefficient. On the valley floor the amount of fallow land is negligible. Since nobody thinks of fertilizing, the returns are very poor. Rarely is any well developed corn to be seen.

Next to corn, the small, brown native bean, the *frijol*, forms the main crop, and is as important in the diet as corn itself. There are some maguey fields (a variety of the *Agave americana*). The plant is not used for making *pulque* as on the highland of Anahuac, but from the lower leaves and roots a strong liquor, *mescal*, is distilled. This drink takes the place of *pulque*, *tequila*, or *aguardiente* (sugar-cane brandy) of other parts of Mexico.

In their gardens around the huts or houses every family has a few fruit trees and other cultivated plants, both native and imported. The aboriginal fruits still predominate, however. The most common of these are the *tuna* (fruit of *Opuntia tuna*), *nanche* (*Malpighia mexicana*), *aguacate* (*Persea gratissima* Gärtn.), and *chirimoya* (*Anona cherimolia*). Such gardens provide only small additions to the diet.

Stock-raising is relatively of little importance. There is a small amount of live stock—cattle, goats, and sheep—but the possibilities of the mountains belonging to the pueblo as ranch land are still entirely neglected. Horses are considered a luxury and are used only for riding. Mules and particularly donkeys are more numerous. They serve as pack animals for the traders on their trips through the surrounding country. Petty trade is still, as it was in pre-Spanish times (cf. note 44), the chief vocation of the men of Mitla. They go as far as the *tierra caliente* of the Atlantic slopes to buy coffee and cacao which they sell in Oaxaca. Each one of these Mitla traders keeps a small stock of manufactured articles such as cloth, needles, ribbons,

etc., which he offers for sale at all the fairs, far and wide, in the neighborhood. And he takes advantage of the differences in price of an article in different localities. These traders also bring the salt from the arid regions in the south to the rainy forests in the north of the state. Some of them have become quite well to do by clever trading.

Agriculture, stock-raising, and trade are entirely in the hands of the men, although the women often help in the fields. Weaving has fallen rather into disuse, although there are still some weavers who make the black and red cloth for the women's skirts. Their looms are of the most primitive type, such as the Mexicans used before the coming of the Spaniards (pl. 27*b*). The Mitla weavers have not yet taken to aniline dyes. They still use the *grana*⁵⁶ for their red color. The dye is brought to them from the *nopalerias* of Ocotlán in the valley of Oaxaca. Manufactured cloth, however, is rapidly taking the place of the hand-woven material.

The work of the women is mainly restricted to the house and garden. The grinding of corn (pl. 28*b*) and the making of *tortillas*, corn bread (*yěd* in Tzapotec) take a good part of the time. The primitive method of grinding on a stone (*metate*) is beginning to go out of fashion. The generator which provides the pueblo with electric lights at night, drives a corn mill during the day. Instead of working hard over the *metate* all mornnig, the women prefer to run over to the mill and enjoy a pleasant chat while the miller does the grinding.

⁵⁶ Cf. note 20.

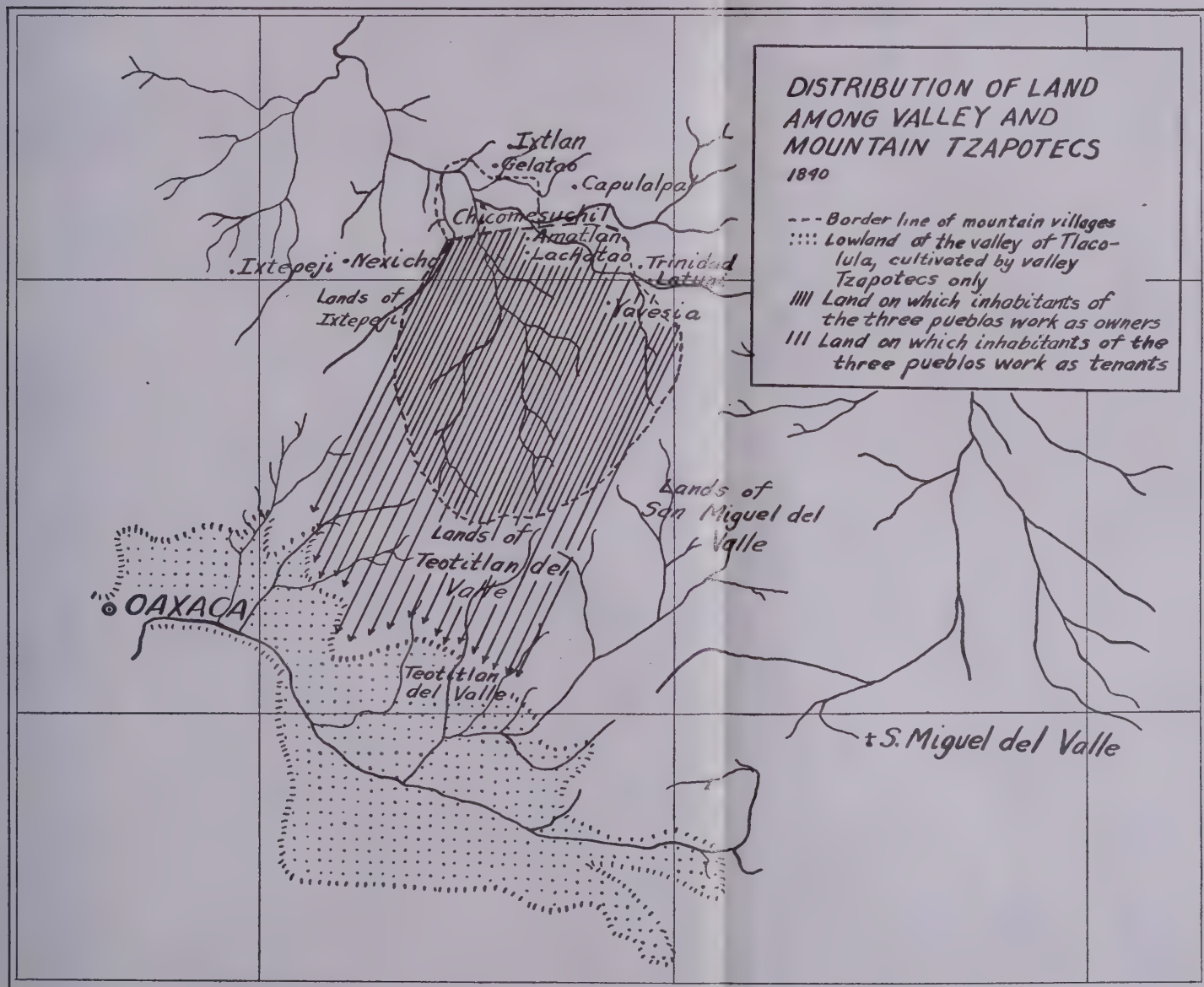
THE COUNTRY OF THE SERRANO-TZAPOTEC

MOUNTAIN TZAPOTEC

Though the mountain Tzapotec or Serrano belong to the same linguistic group as the Tzapotecs of the valley, their dialects differ to such an extent that they can hardly communicate with each other in their native languages but must use Spanish. Many of their customs are different also. The ceremonious salutation of the valley Tzapotecs is unknown among the Serranos, but I am not sure that the latter people have never had this custom. Perhaps they have merely discarded it in modern times. There are ancient valley settlements such as Zaachila, for example, where the inhabitants have given up the old fashion of greeting, only within the last few decades.

The position of woman is better in the mountains, where she wears sandals and hats like the men. A particular feature of the mountaineers that is entirely unknown in the valley is the *chiflo* or whistle-idiom. The *chiflo* is an imitation of the spoken language, and the Serrano can whistle in Spanish as well as in Tzapotec. By means of whistling they call each other by name and carry on simple conversations. Men in the mountains, as well as children at play, can often be heard whistling to each other in this fashion.

Environmental contrasts alone do not account for the differentiation of the Tzapotec into such dissimilar groups. There is sufficient evidence to show that, in the pre-Columbian period and in early Colonial times, a broad belt of unsettled mountainous land separated the Serrano from the nearest valley settlement. It is a good day's ride—eight or nine hours—northward on the road from Tlalistac to the first Serrano pueblo, Lachatao, whereas no Serrano village is more than two or three hours distant from its nearest neighbor. Nor are the distances any greater between the valley settlements. The present-day pueblo boundary lines show that this belt of forested mountain land, about forty kilometers in width, was unsettled when the Spaniards arrived (map 7). Evidently here as elsewhere, the Spaniards recognized the Indian's right to the land by title grants. The unoccupied mountain region between the fields of the Serrano and those of the valley people was divided equally between the two





groups. As far as the valley people are concerned, this is still quite satisfactory. They still have plenty of good valley land and have made no attempts to push their fields farther in the direction of the mountains. All mountain land belonging to such valley towns as, for example, Teotitlán del Valle, is communal. This is equivalent to saying that it is undesirable in the eyes of any individual member of the community.

With the Serrano the situation is quite different and far from satisfactory. Scarcity of land suitable for the crops they raise has driven them farther and farther from their pueblos in search of arable patches. The people of Lachatao and Amatlán, for example, have long since crossed the borders of their own pueblos and are cultivating land belonging to the valley settlement of Teotitlán. All the little fields to be seen along the slopes from the valley are worked by the Serrano, on land that does not belong to them. They are unable to live at home—their own pueblo is often forty or more kilometers away—so they build ranchos for themselves near their fields. These ranchos represent a very unstable kind of settlement, built as they are on fields belonging to another pueblo and impossible of acquisition by the Serrano who work them. They are not owned by individuals, but belong to the community, and the valley pueblos would rather rent them than let their neighbors encroach permanently on their territory. The Serrano ranchero who works the field of a valley pueblo is therefore bound to remain a Serrano.

Another factor contributing to the instability of these border ranchos is the social organization of the Serrano. Every member of a community is obliged to accept an office to which he is elected or to do any public work assigned by the community authorities. Thus a Lachatao man, living forty kilometers to the south of his home village, may at any time receive an order to help for three weeks in repairing the church. He may even be elected village president and have to be in his office in the municipal building every day for a year, without receiving any pay for his labors. Under such circumstances, a man would either have to accept the job, give up his rancho, and go back to his home village to live, or refuse the honor and decline to do the work to which he has been assigned. The community has no means of compelling a man to accept, but should he refuse, it would be equivalent to withdrawing from his village. The home pueblo would no longer consider him as one of its citizens, nor give him any

help in time of need. He would become a man without a country. It is possible, of course, that some other village might incorporate him, but an Indian outcast from his own pueblo usually lands finally in a town, to form part of the urban proletariat. Most Indians, rather than be homeless, would give up their ranchos and go back to their own village for public service. Thus it is that the organization of the pueblos prevents permanent settlements in the mountain belt between the Serrano and the valley Tzapotec.

The gap between the areas inhabited by the Serrano and valley Tzapotec indicates that the mountaineers did not develop originally as a branch of the valley people. I would not dare to say whence the Serrano came, but their ancient stronghold was evidently the upper valley of the Rio Grande in the Ixtlán district. In this depression ancient pueblos are densest, and from here expansion in an easterly and southerly direction has taken place. The Tzapotec name for Yavesía (Shio-ra, meaning up river) in the extreme southeast of the Serrano area is significant. The invasion of land to the south owned by valley pueblos has taken place in historic times.

Pre-Columbian settlements—

The mountain Tzapotec live almost exclusively in more or less compact settlements. This distinguishes them from the Mije and the Chinantec with whom they share the mountain region north of the valley of Tlacolula. All the pueblos of the mountain Tzapotec extant at the time of the Conquest still exist and are recognized today as *pueblos viejos*. The Spanish conquerors introduced no fundamental changes in the settlements, none being needed. Much greater changes must have taken place in the pre-Columbian period, although the causes are unknown. Traces of abandoned villages seem to be numerous. All those I heard of were apparently on sites affording protection by their inaccessibility. Not far west of Lachatao stands the steep hill of Ye-tha,⁵⁷ originally part of a spur at the confluence of two rivers (map 6). Its entire top is carefully terraced with stone walls, several meters high in places. Numerous potsherds indicate that the place was once inhabited, but the dwellings must have been wooden huts, no traces of which remain. The tradition of the *pueblo*

⁵⁷ I was unable to discover the meaning of this word. Among the place names of the mountain Tzapotec, archaic forms seem to be more prevalent than in the valley. La Valenciana, the Spanish name given to the hill, has no connection with the Tzapotec name.

viejo persists, however, and the *róvi-yěthu-yěsí* (the well of the old town) is still there. It has water in it the year round, and evidently provided plentifully for the inhabitants of the pre-Columbian settlement. It is quite elaborate, with a gallery descending as a staircase several meters into the slope of the hill. The roof forms a kind of arch obtained by joining two large keystones at a sharp angle. The technique is essentially the same as that in a vault in Monte Alban (cf. pl. 10*a*, *b*).

It is still a question why this settlement was abandoned after its inhabitants had gone to the trouble and difficulty of terracing it. Soil exhaustion may have had something to do with it. The terraced fields are still under cultivation, but they need to lie fallow for as long as five years in order to yield even moderate returns. This factor alone might have caused the gradual abandonment of the settlement. It is certainly true that at the present time all permanent settlements are located on, or at least in the immediate neighborhood of *tierra de aradura* (high-grade soils) which can be cultivated year after year.

Much more significant than the *pueblo viejo* of Lachatao must have been the place called Shúyu-wāu (map 6). Directly east of Yavesia, the mountains rise to an elevation of 2600 meters. The higher portions are covered with old pine forests. This region is at present neither inhabited nor under cultivation. Only a few magueys (*Agave americana*) (pl. 9*b*) and some palm trees indicate that this was not always so. On the highest peaks, moreover, there are extensive ruins. Most of them are covered over with earth so that they look like merely so many mounds. The small solid stone columns scattered over the place are most interesting. I counted eleven during a rather superficial survey (pl. 11*a*, *b*). They are only about a meter in length, made of local porphyry and so perfectly circular in shape as to suggest that they must have been turned on a lathe. There is no doubt that they were made *in situ*. A few unmethodical excavations of the Indians have yielded idols sculptured out of stone or made of clay. They are so elaborately done as to equal the best workmanship of the valley Tzapotec. Further investigations will have to show whether the products of such fine workmanship originated in the settlement itself or were imported from more highly civilized neighbors. One of the clay figures I saw had the high artificial headdress still worn by the women in the mountains of Yalalag,⁵⁸ a fact which suggests that it

⁵⁸ Cf. figure *Va* in H. Spinden, *Ancient Civilizations of Mexico and Central America* (New York, 1928).

was made by the mountain people. There can be no doubt that cultural objects from outside came into the country of the mountain Tzapotec. It would even seem that such common articles as obsidian knives, etc., were all imported and not manufactured in this region. The term for obsidian implements, *shkē-véla* (droppings of the stars) does not suggest that the natives were familiar with their source.

The ruins of Shúyu-wáu prove the existence of an important pre-Columbian settlement on this site. The settlements which continued from pre-Columbian times into the period of the Spanish occupation were also all of the clustered type (pl. 33a). The aspect of the cultural landscape which the Spaniards found was therefore quite different farther east. The development of compact villages and the absence of isolated farmhouses evidently took place in opposition to environmental influence. Only a particular social organization can account for it. There is evidence that the mountain Tzapotec changed the aspect of their mountain regions into a cultural landscape under a system similar to that developed by their kinsmen in the valley. Obligations to the community, mentioned previously, prevent the Serrano from leaving his home settlement and building himself a new house on his own fields, as so many Mije have done. No mountain Tzapotec owns a contiguous stretch of land unless he is extremely poor and has only one field. Their fields are located anywhere within the limits of the community. The *paraaje* system of the valley also exists in the mountains, each *paraaje* being split up into various fields held by different owners. Irregular surface forms and changing soil conditions make the field pattern even more complicated than in the valley (pl. 30b). Nevertheless it seems safe to assume that the methods used were the same as those of the valley, viz., cooperation in the clearing of a *paraaje* and the partitioning of the land afterward among the people. Here too, as in the valley, the original distribution has been changed, since everybody is free to dispose of his land or acquire more.

Serrano place names—

It has been stated that almost all the place and *paraaje* names of the region are Tzapotec, although Spanish terms are slowly being substituted for the ancient native ones. Those of Mexican origin are much less numerous than in the valley. Derived from the Mexican are such names as Chicomesuchil (*chicome*, seven, and *xochitl*, flower), Ixtlan (*ixtli*, face or view, and *tlán*, place) and Ixtepeji (*ixtli*, face

or view and *tepextli*, peak. For all these the Tzapotec names are still known among the natives although seldom used. Ixtlan is Layéds (*la*, unknown, and *yēds*, town), Ixtepeji is Lechiyela (*lechi*, plain, and *yela*, hollow), and Chicomesuchil is Gayu-shia. For the most part the original Tzapotec names prevail. Some examples are Jaltanguis (*xalli*, arena, and *tianguiztli*, market), Gelātao (*giela*, lake, and *tao*, enchanted), Yavesía (*ya*, tree, and *vesiē*, eagle), and Yahuiche (*ya*, tree, and *huich*, fig).

Not only in their place names have the Serrano preserved the original Tzapotec terms. Some of their own proper names, though Spanish in origin, have Tzapotec forms. Such words as Carlos they slightly corrupt into Carlu, but usually they make such substitutions as Vetu for Pedro, Rugual for Juan, and Nugueli for Manuel, which can hardly be considered as corruptions of the Spanish. It is more probable that they are aboriginal names which have persisted.

Spanish influence upon the Mountain Tzapotec—

I know of no historical sources which refer to the first coming of Europeans into the land of the mountain Tzapotec. Judging from the names which the Serrano gave to some imported animals, plants, and implements, it would seem as though they (like the Mije but to a lesser degree), first felt the Spanish influence indirectly. The term for plow (*arado*), horse (*cuallo*), orange (*marasha*), and bean (*gaba*) were taken directly from the Spanish and only slightly disfigured. On the other hand, sheep, for example, were apparently sold to them by an intermediate agent before the Spanish word had been learned. *Shrila* is the term used for sheep, and it is the same in the valley where it meant originally and still means cotton, but now is used for sheep as well. Iron seems also to be among the early and indirectly imported articles. The term *shi* for stone was extended to it.

Whether the Spanish Conquest was a peaceful one or not is unknown. In the archives of the pueblo of San Juan Chicomesuchil there is an ancient map⁵⁹ which suggests that the villagers offered armed resistance. Below the picture of the village, another drawing represents a battle. Spaniards on foot and on horseback, aided by a

⁵⁹ This map is about one and a half meters square, drawn on cloth, and represents the upper Rio Grande valley. The letters in the inscription suggest the seventeenth century as its date. Both the inscription and the drawings have faded considerably. The letters are quite extensive and all in Tzapotec, but even with the help of the most intelligent people of Chicomesuchil, I was unable to decipher more than the names of the settlements.

big dog, are attacking a group of Indians. The Spaniards are evidently victorious; at least not one of them is killed, whereas several mutilated Indians are lying on the field (fig. 6).

Even if the Serrano actually did oppose the Spaniards with arms, the Conquest itself did not originate any important changes in the cultural landscape. Most of the settlements continued into the Spanish period. I was unable to discover the causes which brought about the abandonment of several mountain settlements. A large map (pl. 38), dating from the nineteenth century, of the territory held by Lachatao, Amatlán, and Yavesía shows the now abandoned settlement of San Lucas de Yatao. Another old map of the same area,⁶⁰ probably from the seventeenth century, pictures the same settlement, and shows a group of men armed with helmets, swords, and shields attacking the unarmed villagers. This suggests that San Lucas de Yatao was conquered by warlike invaders and perhaps wiped out. At any rate, by 1839 it had entirely disappeared and is mentioned only as "despoblado de San Lucas." In that year the inhabitants of Ixtepeji and Lachatao-Amatlán came to an agreement as to the ownership rights of the abandoned settlement over which they had been quarreling for a long time.⁶¹ Today there are no traces of the ancient place, but the people of Lachatao can still remember the site.

Among the mountain Tzapotec of the Villa Alta district, the number of settlements given up during the Colonial period seems to be larger. A single map (pl. 39) of the year 1755, representing parts of the territories of the pueblo San Juan Yechecobi and Santo Domingo Roayaga, shows four abandoned settlements.⁶² I was unable to obtain any information as to why these were given up.

Here, as in the valley, those settlements which have continued from pre-Columbian times into the Spanish-Colonial period are recognized by the present-day natives as *pueblos viejos*. The Spaniards acknowledged the natives' right to the land by extending them land titles.

⁶⁰ MS map in the municipality of Chicomesuchil. It is similar to the one described in note 59, and probably of about the same year. The paper on which it is drawn is in very bad condition. All the inscriptions are in Tzapotec and could not be deciphered.

⁶¹ See MS documents referring to the border trouble between Ixtepeji and Lachatao-Amatlán, vol. 3313 of the Ramo de Tierras, Archivo General de la Nación, México. "Terrenos que mutuamente se disputaban hasia mucho tiempo." There is a copy of the document in the municipality of Lachatao under the title, "Transacción de San Lucas."

⁶² "Pueblo desertado de San Pedro Yadobe, Pueblo desertado de San Juan Jetzé, Pueblo desertado de San Miguel, Pueblo desertado de ———," the last being indecipherable.

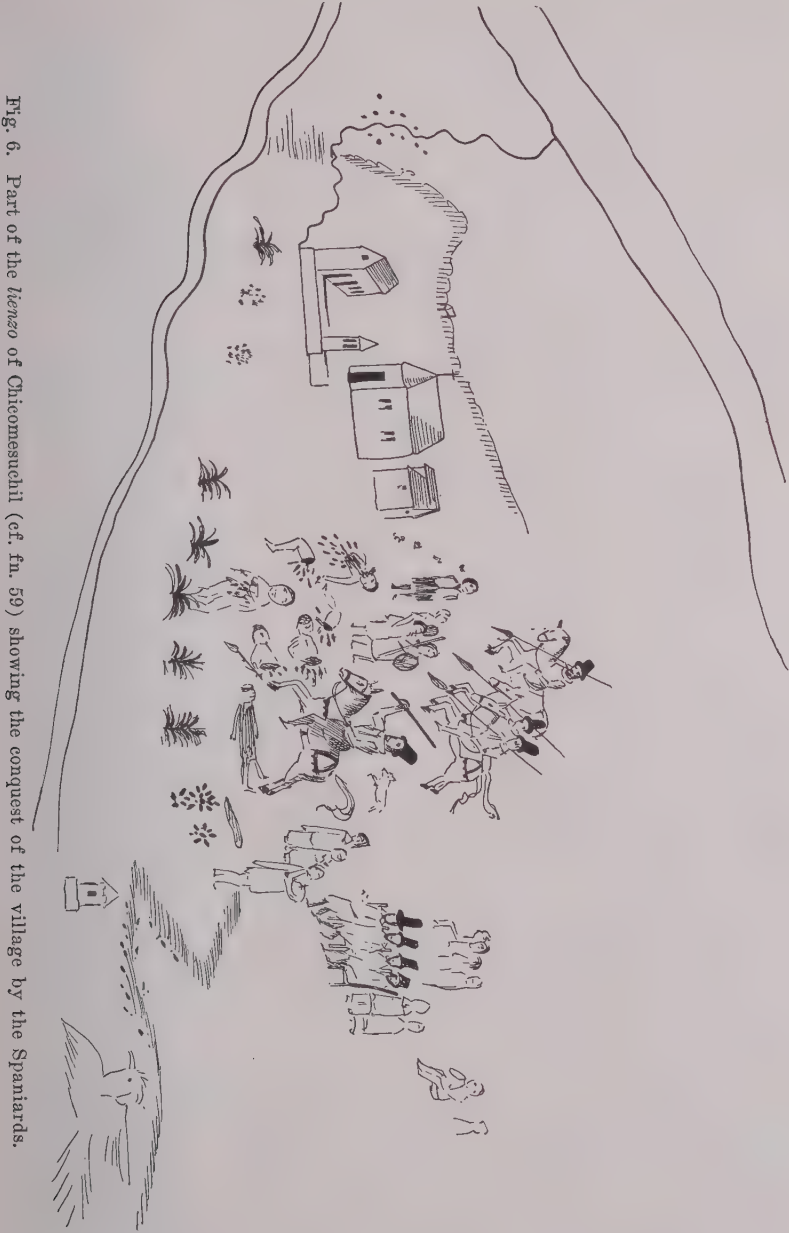


Fig. 6. Part of the *lienzo* of Chicomescuili (cf. fn. 59) showing the conquest of the village by the Spaniards.

Some settlements received individual titles, and others, like Lachatao, Amatlán, and Yavesía, received their land in *mancomunidad*. In this way the entire territory of the Serranos was divided up in the early Colonial period among the then existing *pueblos viejos*. As to place names, Mexican names replaced the ancient Tzapotec, and saints' names were added as well.

As time went on, the Spanish influence became more and more evident. Impressive churches, of course, arose in every village and borough. In addition, the type of house changed, and in particular the Spanish tile roof came into use. The rugged character of the landscape and the lack of any extensive level area, however, made it impossible to reform the plan of the towns and to adapt the street pattern to the Spanish Colonial quadrangular block system. To the present day, the Serrano settlements have remained utterly irregular in plan, each one being made up of a loose agglomeration of dwellings and gardens covering an extensive area (pl. 33a).

Some few new settlements originated in the Colonial period, although no rural estates like those common in the great valleys of Oaxaca came into existence. The number of *pueblos nuevos* which developed from the *rancherías* of the ancient settlements seems also to have been small. According to tradition, San Pablo Gelatao is one of these. It is evident that this village originated after the Spaniards had distributed the land among the *pueblos viejos* and had given titles. Gelatao as a community owns no land. It is located precisely on the border between Yahuiche and Ixtlán (map 6). All the land owned by its inhabitants has been bought in small lots from the people of the two neighboring villages. Even now the tendency toward the formation of *rancherías*, and their subsequent development into *pueblos nuevos* seems quite insignificant or even non-existent. The village of San Juan Chicomesuchil owns a good map⁶³ of its own territory showing conditions as they were in 1870. Several of the *rancherías* existing at that time have entirely disappeared, and the present generation has forgotten all about them.

Among those about which there is information, however, Xia must be mentioned. In that place, on territory belonging originally to Chicomesuchil, a Spaniard some fifty years ago started a cloth factory. He bought small pieces of land from the villagers, imported cotton

⁶³ Plano topográfico de San Juan Chicomesuchil por Enrique de Schleyer, Ingeniero de la Confederación N. Alemana, 1870. The original is in the municipality.

from the Pacific coast, and took advantage of the water power and the cheapness of the native labor. Around his establishment settled the families of his workers, numbering as many as one hundred and twenty. A real *pueblo nuevo* was in process of formation. The inhabitants elected their own administrative officers, and were in that way entirely independent. The settlement was unique in that it was essentially industrial. Brutal exploitation of the laborers, however, made the Serranos come to hate the owners of the factory. During the revolution against the Carranza government in 1916, all the mountain Tzapotec took sides with the revolutionists and federal troops invaded the district. In the fighting that ensued, the proprietors of this establishment were treated as enemies by both parties. Their building was destroyed and the inhabitants of Xia lost their jobs. They abandoned the pueblo and the village of Chicomesuchil reclaimed the land. Today only impressive ruins remain (pl. 18*b*), and two or three families live in the dilapidated houses of what was once a flourishing community.

Some of the old *rancherías* still exist but none of them has developed to any extent. The *ranchería* Reynos, for example, has just the same number of houses and families that it had sixty years ago. There are no new *rancherías*.

Much more numerous than the rural *pueblos viejos* was a new type of settlement. Under the Spanish occupation the exploitation of the mineral wealth of the mountains began. Since the ore is usually found in small scattered ore bodies, numerous little mining settlements arose. As a rule, these proved quite unstable. Once the mine was exhausted or given up for any other reason, the miners and their families returned to their home villages. Only a few of these settlements existed long enough to enable the laborers to buy small pieces of land in the neighborhood and so become well rooted in the place. Nexicho, within the territorial limits of Ixtepeji, is an instance of an ancient settlement which endured beyond the first period of instability. By the time the mines were exhausted the miners had acquired enough land to be able to make a living as farmers. This village, of course, possesses no community land.

At the end of the Colonial period the mining of gold and silver in the Tzapotec mountains had reached a very low point. The Spanish methods of working the mines were out of date and inefficient. Amalgamation was still exclusively the form of extraction, and all copper and lead content was thus lost. The concentrating and melting of ores

were quite unknown. The Spaniards were content to extract the richer ores, letting the poorer ones go to waste. They knew nothing of subterranean geometry and did not even use pumps in their mines.⁶⁴

With the abolition of Spanish domination a fundamental change took place. Independent Mexico was thrown open to foreign capital. In 1825 the Mexican Mining Company was organized in England with a capital of \$5,000,000. This company⁶⁵ centered its activity on the mines in the State of Oaxaca, all of which were located in the small area represented on map 6. Although the ore in these mines was admittedly poor, the great supply of water and fuel in the region, the fertility of the soil, and the healthy climate made the directors come to this decision.

The Mexican Mining Company adopted the German mining system and used German personnel. During the years 1826 and 1827 about one hundred Germans were engaged by the company and sent to the Tzapotec mountains. Among them were not only engineers and assayers, but also a doctor, miners, dressers of ore, carpenters, roasters, wheelwrights, smiths, smelters, a cooper, and a mason.

The activities of the Mexican Mining Company do not seem to have resulted in a particularly high output. A return of one hundred and fifty bars of silver had been estimated for 1826 and the actual production for that year was as low as twenty bars, worth \$23,816. Nevertheless the company kept on working for about twenty-five years, stopping finally because of revolutionary troubles.⁶⁶ Some abandoned mines and the ruins of mining establishments are still in the hands of descendants of a British family that was connected with the original company. This family intermarried with Mexicans and has become culturally absorbed by its new environment. The Germans have also disappeared from the scene, but the native miners learned from them and have kept on applying the more efficient methods, in particular, utilizing the water power as the Germans taught them to do. In 1875 the *método sajón* was still in common use.⁶⁷

⁶⁴ Extracts from a report of Mr. Justus von Uslar, relative to the "negociación" of Yavesía in the State of Oaxaca, dated San Antonio de Padua, Oaxaca, January 6, 1828 (London, 1828).

⁶⁵ Henry English, *A General Guide to Foreign Mines*, 44-46, quoted by W. J. Hammond in *History of British Commercial Activity in Mexico, 1820-1830* (Ph.D. thesis, 1929, MS in the library of the University of California, Berkeley).

⁶⁶ H. L. Elton, *The Sierra Juarez District, The Mining World*, 25:337 (1906).

⁶⁷ Manuel de Anda, *La minería en Oaxaca in El Minero Mexicano* (México, November 1875), 3:337.

The Germans also left impressive traces on the cultural landscape. Approaching Yavesía, once the headquarters of the Mexican Mining Company, one is astonished to find a type of dwelling in use among the natives that is unique in the area under study. The roofs of the houses are steeply inclined, and covered with shingles, and the upper part of the gables are also shingled. From a distance the similarity to a northern European village is striking, and one is obliged to assume German influence (pl. 20a).

Mining attained a new low level in the last two decades of the nineteenth century. In the eighties, most of it was left to the Indians, from whom the proprietors bought the ore produced. The Indian miners, left to themselves, extracted the ore wherever they could do so with a minimum of effort. If a mine filled with water, or any other technical difficulty arose, work was stopped there and begun somewhere else. The consequence of such methods was a general decay of the industry.⁶⁸ Its revival, which began in the first year of the twentieth century, was mainly due to American influence.

The mining activities of the modern period were also responsible for the establishment of numerous new settlements. With the exception of the mining community of La Natividad, none of them proved stable. Even La Natividad, however, in 1906 still classed as one of the most profitable mines in all Mexico,⁶⁹ is now in a languishing condition. A large number of ruins, some of them quite impressive, exist between Lachatao and Yavesía. The most important settlements grew up around the so-called *haciendas de beneficio*, treatment plants, which were all situated in the bottom of the valley near the river. In some of these work began again at the beginning of the present century. *San José García*, then owned by the Mexican-American Gold Mining and Milling Company of Waco, Texas, was active in 1906. *El Carmen*, the great establishment of Los Cinco Señores (pl. 18a) still employed several hundred workers in 1911, and a large village surrounded the mills and smelters. The *Hacienda de Yavesía*, close to the village of the same name, was still working in 1903. High on the slope above the *Hacienda Socorro*, a typical village of miners called San Antonio sprang up. This settlement, with its fine, solid church, seemed destined to become permanent. At the time that the mine stopped working, the

⁶⁸ W. H. Hooker, Notes on Mining in Oaxaca, Transactions of the American Institute of Mining Engineers, 15:13-21 (1887). Hooker visited the area in the summer of 1881.

⁶⁹ Elton, *op. cit.*, 337.

villagers had bought enough land from the communities of Lachatao, Amatlán, and Yagui to make a living by farming. For decades they supported themselves by this new means, but in the end their community lacked the traditional coherence of the *pueblos viejos*. During the Carranza revolution (1916), when federal troops penetrated the region, all the old settlements offered armed resistance. Only the opportunist inhabitants of San Antonio, believing the federals to be the stronger party, took their side. When these troops were forced to leave the Tzapotec mountains, all the other surrounding villages joined forces against San Antonio. It was destroyed and its inhabitants driven out. Yavesía and Amatlán distributed the fields among their people. The church and the houses fell into ruins.

The latest somewhat extravagant attempt to found a new mining center was that of the Oaxaca-Mexico Development Company of Chicago (see map 6). This company bought supposedly important mines south of the village of Lachatao and established a mill and an electric plant down in the valley of the *Shio-yu-dēti* (= the salty soil creek). A cable car line connects with the mines, located nine hundred feet up the slope. Two years ago, when the establishment was finally ready for work, it was found that there was no ore. The whole promotion scheme ended therewith, and the establishment probably proved useful for the first time when the abandoned administration building sheltered me during my stay in Lachatao.

Serrano native economy—

The economy of the mountain Tzapotec is essentially agricultural. Corn and frijoles are the staple crops. Owing to the particular land formation, irrigation is possible only in certain places. Because of renewed erosion, the lower parts of most valleys form deep canyons (see map 6; pl. 4a). Villages like Chicomesuchil and Yavesía (pl. 38), which can irrigate their fields, are in a much envied position. They can raise two crops a year, whereas a single annual crop, depending on the rainfall, is the rule elsewhere. Good land which can be permanently cultivated is scarce. Most of the fields on the steeper slopes regularly remain fallow from one to several years. The agricultural methods employed are as primitive as in the valley of Tlacolula. The same inefficient wooden plow with a single iron point is in use, and fertilization is unknown. As a result, the returns are small.

Because of the great differences in elevation and therefore in climate, each village produces some special fruits in addition to the

general staple crops. Yavesía, for example, is famous for its walnuts, whereas in the warmer climate of well protected Chicomesuchil bananas, aguacates, and other tropical fruits are grown. Corn ripens at different times in different villages. The villagers therefore carry on a lively trade in this crop, although on a small scale.

None of the mountain settlements has developed crafts as have many of the towns in the valley of Tlacolula. All manufactured articles are imported. The serapes in use are all from Teotitlán del Valle. All the pottery, metates, petates, *guachis* (sandals), etc., are made by the valley Tzapotec, who bring them to the weekly fairs at Oaxaca, where they are bought by the mountaineers.

The only industries to which the Serrano have devoted themselves, besides agriculture, are mining and charcoal burning. With the almost complete cessation of the former since the Carranza revolution (1916), the people have become almost entirely dependent on agriculture. Most of the settlements are short of arable land and their inhabitants have a hard time to make a living. They have to rent land from the valley people, or go beyond their own territory in search of work for which they can hire themselves out. Along the railroad tracks and the roads under construction, large numbers of peons are to be seen, with the typical pointed black felt hats and the heavy nailed sandals of the Serrano (pls. 23*b*, 24*a*). Charcoal-burning is their one remaining trade, and the towns of Oaxaca and the villages of the great valleys still furnish a ready market for this product.

THE MOUNTAINS OF THE MIJE INDIANS

The people and their settlements—

Bordering on the territory of the mountain Tzapotec to the east live the Mije Indians, or *ayěúk-hăyu*, the language people, as they call themselves (pls. 22b, 24b). Their habitat embraces only mountainous country, including the high ranges from the Zempoaltepec to the Picacho de Acatlán. Although the entire area is heavily forested, there are great contrasts in environment. The open pine forests of the southwest, the deciduous forest of the high mountains, and the tropical jungle of the *tierra caliente* offer very different living conditions. It has been assumed that the Mije formerly occupied a more extensive area of which they were dispossessed in part by Tzapotees and Huaves,⁷⁰ but I can find no reason for this assumption. The fact that the Mije were less numerous and not so advanced in culture as their Tzapotec neighbors, does not signify that they were inferior from a military standpoint. A parallel between this situation and that of the Quechua Indians and the Chiriguano in South America is worth mentioning here. Burgoa has certainly painted the military state of affairs quite favorable for the Mije.⁷¹ According to him, there was warfare between Tzapotec and Mije at the time of the Spanish invasion. The extreme aggressiveness of the Mije had so intimidated the Tzapotec that the latter appreciated the proximity of the Spaniards and turned to them for protection. Santamaria y Canseco has described the fighting tactics of the Mije,⁷² which were different from those of the Mexicans and Tzapotec. The Mije used only long lances reenforced with flint.

That fluctuations in the tribal border lines did occur is beyond doubt. The Mije Indians must have intermarried with their neighbors;

⁷⁰ Orozco y Berra, *Historia antigua de la Conquista de México* (México, 1864), 2:193. See also W. Lehman, *Zentral Amerika, Die Sprachen Zentral Amerikas in ihrer Beziehung zu einander sowie zu Süd Amerika und Mexico* (Berlin, 1920); 2:787.

⁷¹ Geogr. descr., chap. 56, p. 271.

⁷² Relación de Nexapa, 1579, in *Papeles de Nueva España* (publ. por F. del Paso y Troncoso), 2ª serie, *Geografía y estadística*, vol. 4, *Rel. geogr. de la diócesis de Oaxaca*. Manuscritos de la Real Academia de la Historia de Madrid y del Archivo de Indias en Sevilla, Años 1579-1581 (Madrid, 1905), p. 35: "los Mixes y Chontales peleaban solamente con lanças que serian de largo tres traçadas antes mas que menos y todavia las ay por esta tierra a que las justicias se las quitan e quiebran, y destas lanças la una braça estaban aforradas en pedernal."

at present they form not a racial, but only a linguistic and cultural unit. There seems to be little support, however, for the assumption that they suffered from continual loss of territory to the advantage of their neighbors. In the northwest portion of their present area they possess large sections of land in the *tierra caliente*, but they are extremely slow to occupy it and settle there definitely. The inhabitants of Totontepec have their ranchos as far away as six *leguas* and about a thousand meters below their village proper. In spite of the long trip from their fields and orchards, everyone of them goes back to the main settlement, where their permanent dwellings are, as often as he can. I received the impression, contrary to Lehman,⁷³ that the Mije Indians were originally mountain dwellers, and they hesitate to advance into the *tierra caliente*. Their vocabulary, moreover, has not even an original term for the conspicuous tree fern of the forests of the upper *tierra caliente*; on the contrary, the word they use signifies clearly that this plant was at first unfamiliar to them.⁷⁴

Mije material culture—

For the reconstruction of the pre-Columbian Mije landscape we have to rely first on archaeological and other finds which throw light on the material culture of that period, next on early reports of the Spaniards, since no pre-Columbia Mije codices are extant, and finally on traditions preserved by the Spaniards or still observed by the natives.

The original mode of living of the Mije was influenced strongly by their environment. The location of their settlements was wholesome, most of them being from 1600 to 2000 meters above sea level. Nevertheless they have certain endemic diseases which form a serious handicap to their cultural development. Most malignant and frequent

⁷³ W. Lehman, *op. cit.*, 2:728.

⁷⁴ The Mije word for the tree fern of the *tierra caliente* is *tzáp-kôm*. (The pronunciation of vowels is Spanish, of consonants, English. The German Umlaut and the Spanish tilde are also used). *Kôm* means a native mountain palm. *Tzáp* means heaven, or wonder, and is quite frequently used by the Mije to express bewilderment at something unknown or new. *Shô*, for instance, stands for the small native bean, the frijol, and *tzáp-shô* for the wonder bean. Again *hâyü* means people, and *tzáp-hâyü* means white people. *Pid* means string, and *tzáp-pid*, imported thread. *Wid* means homemade cloth, and *tzáp-wid*, manufactured cloth. *Kāgij* is a corn pancake or tortilla, and *tzáp-kāgij* is bread. *Shör* is an oak tree, and *tzáp-shör* is a quince. The orange was compared with a native fruit called *tzöug* (zapote) and therefore named *tzáp-tzöug*. *Hām-kā* means mountain lion, *hîn-kā* (*hîn*=painted) means jaguar, and *tzáp-kā* stands for cattle. Thus it is evident that the tree fern was not originally familiar to the Mije. When they became acquainted with it, they prefixed *tzáp* to the old word for a well-known plant in order to give the new one a name.

among them are some eye infections which end in blindness. Apparently filariae (*Onchocera* sp.) propagated by mosquitoes cause the disease. In the village of Tiltepec up to 90 per cent of the inhabitants are infected.⁷⁵

The mountain country of the Mije offers no extensive level areas. The environment hardly favors large gatherings of people in settlements similar to those of the valley Tzapotec. Burgoa⁷⁶ speaks of rancherías of the Indians scattered along the slopes and in accessible gorges. In spite of the fact that their settlements were so dispersed, groups possessed such a decided sense of community spirit that they carried on warfare with each other. On what the community feeling of such a sparse and scattered population was based is problematical. The language differentiation within the Mije group is slight and not to be compared with that of the Tzapotec. There is a possibility that the original small units had the characteristics of clans; at least there is a word in the Mije language—*h(ó)ut-mug(ó)ug*, all people with the same paternal name—which is equivalent to a clan. Santamaria y Canseco⁷⁷ mentions that the Tzapotec, Chontal, and Mije founded their settlements according to kinship: "Fundaban sus pueblos por parentela . . . a esta cabeça de parentela que nosotros llamamos cabeça de bando, todos los otros trabaxaban para sustentarlo, ansi de ornato como de mantenimiento: las parentelas que deste degenían hasta el quarto grado de cada una. . . ." This would suggest a strong clan feeling as the basis for the formation of a community. No such feeling, however, exists among them at the present time.

The traditions of the wars between the inhabitants of Totontepec and Moctun are still alive and the general belief of the people that their ancient heroes lived on and around the high peak Añy-cats (Lightning Peak; pl. 15a) some four hundred and fifty meters above their present village, may be corroborated by investigation. The fields on the steep slopes of this peak are covered with potsherds and on the highest points there are numerous vestiges of former dwellings, now grown over with a scrubby second growth. The stone work is crude, none of the stones being cut. The ruins (pl. 15b) are all on terraces, the walls of which are often several meters high. The houses themselves have entirely disappeared. They were probably made of wood,

⁷⁵ José Larumbe, *La onchocercosis en Oaxaca* (Oaxaca, 1926).

⁷⁶ *Op. cit.*, 305.

⁷⁷ *Relación de Nexapa in Papeles de Nueva España, op. cit.*, 33.

no traces of which remain. The situation is so difficult of access that only the desire for protection can explain its selection. And since this ancient settlement on the Añy-cats was far from the border of any neighboring tribe, only warfare with other Mije Indians can account for the need of such protection. The old story of the wars with the people of Moctun is very likely the explanation. The houses are scattered about in no regular plan. The place may have represented a typical Mije settlement—a loose nucleus of dwelling around that of a leader, on a naturally fortified site, the rest of the population spread about on isolated ranchos in the surrounding forest.

The first data on the material culture of the Mije came to the Spaniards through the Tzapotec. To this day Tzapotec and Mije are accustomed to spread very unflattering reports about each other. Since the Spaniards settled first among the Tzapotec, and up to the present, no pure white man has ever resided permanently among the Mije, the latter early got a bad name. As good an expert on Mexican ethnology as Orozco y Berra⁷⁸ calls them “pueblo bárbaro.” Even the Dominicans, who were the first to acquire first-hand knowledge of the Mije, failed to do full justice to them and their country. Spaniards for the most part, raised in a Mediterranean climate, they were filled with horror by the heavily forested, rainy Mije region. The description of Tacitus in his *Germania* form a close parallel with what the Dominicans, particularly Burgoa, had to say about the Mije and their habitat.

As a matter of fact, however, the entire culture of the Mije, material as well as mental, was inferior to that of the Tzapotec. The extremely rugged country and the scattered little patches of really good land formed an obstacle to the formation of larger, compact settlements. Urban culture in all its multiple aspects never developed among them. Artistic production was limited to the making of idols. Those I learned of were extremely primitive and archaic in design—a human face or body adapted to the natural form of a stone (pl. 36). The Mije seem not to have been susceptible to any artistic stimulus from outside; traces of neither Tzapotec nor Maya influence can be found. Nor did architecture develop among them to any important extent. I did not find a single cut stone among the ruins of Totontepec. All the numerous remains of pottery are very inferior, both in material and form. More efficient instruments, such as the obsidian knife, came to them through trade with their Tzapotec neighbors. The ancient

⁷⁸ *Op. cit.*, 2:193.

Mije word for an obsidian instrument, *tžăp-vîn-bou* (*vîn* for eye and *bou* for broken), is still in use and most significant.⁷⁹

The Mije were mostly farmers, carrying on their work in isolated clearings.⁸⁰ The clearing of their luxuriant mountain forests, the soil of which is soon exhausted by agriculture, must have been a very hard task. I found only a single type of stone hatchet used for this purpose (in Mije, the *hash-katsh* or wood splitter) extremely small and light (10 cm. long and 5 cm. high). The existence of the copper hoe (*coa*), so frequently found in the fields of the valley Tzapotec, could not be established in the Mije district. A wooden stick was the only farm implement. Until well along in the seventeenth century, such single hoes were still in general use and even at that late date the plow was unknown.⁸¹

Their more highly civilized neighbors, the Maya, Tzapotec, and Aztec, seem to have exercised no important influence on the mental culture of the Mije. None of the higher cultural attainments of their neighbors, such as a written language, a calendar, etc., has been adopted by them. The earliest known Mije manuscripts use Latin letters. In this respect, Orozco y Berra is right in calling them a barbarian people. Their failure to learn from their neighbors was probably due to the fact that they had no large settlements which might have formed the hearth for a higher cultural development. It was probably not lack of contact which was responsible for their neglect to react to cultural stimuli from outside. If we interpret the Mije vocabulary correctly, they had a rather extensive geographic horizon. Of course they had a word of their own for the ocean (*măsh-ně*, very big water), although they lived a great distance from the coast and were separated from it by alien peoples. But they could see both the Pacific and the Atlantic from the high mountains of which the Zempoaltepec forms the culmination. For Mexico (Tenochtitlan) they also had a term of their own that was descriptive. It was *Ně-wîn*, close to the water, proving that a knowledge of this important pre-Columbian center was familiar to them. They still use the term for Mexico City. *Kă-nöpm* (lion ranch) was their name for Tehuantepec (Mexican, from *tecuan*, wild beast, and *tepetl*, hill), the great Tzapotec settlement. It is rather difficult to explain the fact that the Mije settlements all have Mexican names now.

⁷⁹ Cf. note 74.

⁸⁰ Burgoa, *op. cit.*, 303: "Siembran en los montes a rosas."

⁸¹ *Ibid.*, 299: "se coje mayz, frijol, en rosas que hazen en las laderas de mejor terruño de la montaña, sin labor de bueyes hacen el beneficio sino a mano con tarequa ó astas. . . ."

To be sure, the existence of a Mexican name for every Mije settlement cannot be taken as proof of Mexican influence on the area. All Mexican Indians used to coin words in their own language for settlements of neighboring tribes. The Mije too have terms in their own language for the Tzapotec villages with which they were acquainted. Lachitá, for example, is Töö-kōukūp (*töö*, for palm-straw mat), and Roallaga is Kūp-ām (stick mouth). Even Villa Alta, an entirely new settlement founded by the Spaniards, received a Mije name, Hūt-wímp (stretched and close together). In many cases the Mexicans simply made translations for their own as well as for the early Spaniards' benefit. In this way the Mije Pān-tēg-kōpm was made into Metaltepec (*metlatli*, *pān* in Mije, the stone on which corn is ground, and *tepetl*, peak or hill); Mě-kirshm became Zacatepec (*zacate*, *mě* in Mije, now mostly used for the corn or cornstalk, but also in a wider sense for herbs and weeds); Hög-kwāgm was literally translated into Cacalotepec (*cacalotli*, *hög* in Mije, meaning raven). In other cases there seems to be no relation between the Mije and the Mexican names for a settlement. For example, the meaning of Tamazulapan is frog water (*tamazollin*, frog; *apan*, water or river); the Mije name for the same village is Tōuknōbm, meaning three ranches. This imported Mexican toponymy, however, nowhere affected the smaller place names. Except for very outstanding peaks and the larger rivers, the highly developed toponymy of the Mije, which has a name for every little spot and landmark, is still entirely aboriginal.

Period of early Spanish influence—

Almost the whole of the sixteenth century passed without the exercise of any direct Spanish influence on the Mije area. Not a single Spanish settlement was founded in the region. Villa Alta de San Ildephonso, the nearest Spanish town, founded by order of Cortez, was a day's ride from the northwest border of the Mijería. In spite of its excellent climate, it never prospered, and a century and a half after its founding had only thirty Spanish families.⁸² In order to strengthen its defense, Cortez imported a group of Tlascaltec, who had proved friendly and faithful to the Spaniards from the beginning of the Conquest. They settled in the suburb of Analco, close to Villa Alta, where their descendants live today.

Since no Spaniards went to live among the Mije, the latter were at first unaffected in a cultural way. Through Tzapotec traders, how-

⁸² Burgoa, *op. cit.*, 264.

ever, they got domesticated animals that had been imported from Europe, as well as cultivated fruits. The Mije vocabulary is illuminating in this respect.⁸³ For those foreign imports which they received indirectly they had to coin their own words. Since even today direct Spanish influence on the Mije culture is slight, the coining process has continued up to the present, and the Mije language is much poorer in words of Spanish origin than is the Tzapotec. To be sure, in some cases the new article and the Spanish name for it arrived at the same time. *Caballo, burro, trigo, pera, café, lima, mango, sandía, melón* are terms taken directly from the Spanish and incorporated into the Mije language. On the other hand, for many of the imported animals and plants the Mije had to coin their own terms. This they did, for the most part, by comparing the strange new object with something with which they were already familiar, and distinguishing between the two by adding the prefix of bewilderment, *tzäp*, to the foreign one. In this way, the cow got the name of mountain lion and jaguar, which were the biggest animals the Mije knew.⁸⁴ In many cases this did not work, however, since they had nothing similar to a great many of the imported objects. Thus the Mije language is rich in naïvely descriptive words such as the following:

kā-yéum, the bull's hoe, meaning plow
pörshn, with which one cuts, meaning iron
ersh-mōds, to cover the buttocks, meaning trousers
kuh-hōp, to put on the head, meaning hat
tōutshin, to throw with, meaning gun
tzäp-īrshn, miraculously to see, meaning field glasses

To name the clock must have caused unusual difficulties, since European time units were unknown. A bastard word was the result, *hora-payóūn*, meaning hour chaser.

On the whole, even indirect European cultural influences caused an early and profound change in the material culture of the Mije. Stock-raising, particularly cattle-raising, developed alongside of farming. Most important must have been the acquisition of steel implements. It is almost impossible to imagine how the people cleared the land with the tiny stone hatchets that they originally had. The imported steel hatchet must have meant an enormous increase in efficiency.

⁸³ Cf. note 74.

⁸⁴ Cf. note 74.

Direct European influence on the Mije began in 1548 when the Dominicans founded their monastery at Villa Alta.⁸⁵ In 1570 a great invasion of mountain Tzapotec territory by the Mije is recorded.⁸⁶ They destroyed Tzapotec villages and advanced with such fury that the Spaniards of Villa Alta and the Mexicans of Analco, called on for help, were unable to stop them. More Spaniards from the town of Antequera (Oaxaca), together with two thousand Mixtec auxiliaries, were necessary in order to break their advance.

The year 1600 saw the beginning of the greatest change in the cultural landscape of the Mije territory. In that year a royal decree ordered the *reducción* of the Mije.⁸⁷ The intention was to bring the natives together in a few settlements, the more easily to administer and Christianize them.⁸⁹ Special commissioners were appointed to carry out the task of assigning sites for new settlements to the Indians and redistributing the fields among them. According to the purport of the viceregal order, the decree had in mind spiritual salvation as well as the material welfare of the natives.

As far as the Mije Indians were concerned, this procedure could have only evil consequences. It changed their mode of living entirely, since it involved the abandoning of their isolated ranchos and their bringing together in rather large villages. Burgoa's remarks on the subject are few but illuminating.

This gathering together was the greatest epidemic from which the New World has suffered. It consumed the lives of so many taxpayers and subjects of the King, and generally deprived the natives of their tranquillity, their lands and their lives, forcing the majority of them to abandon their homes and fields. . . . A frightful situation and a terrible dying was the consequence of the inhuman cruelty with which the measure was carried out. . . .⁹⁰

⁸⁵ Burgoa, *op. cit.*, chap. 54.

⁸⁶ *Ibid.*, chap. 56, p. 271.

⁸⁷ *Ibid.*, 305. Cf. the order of Viceroy Conde de Monterey issued September 17, 1600, MS in vol. 2785, Ramo de tierras, Archivo General de la Nación, Mexico D.F.

⁸⁹ Order of Viceroy Monterey, *op. cit.*: "La reducción de los naturales de esta nueva España a menos y mayores poblaciones y para su mejor enseñanza de las cosas de nuestra sancta fee catholica y que reciban en pulcicia buen govierno salud y conservacion . . . dandoles a entender que lo que se presente es solo su salvacion y utilidad spiritual."

⁹⁰ *Op. cit.*, 305. Santamaria y Canseco, Relación de Nexapa, 1759, *op. cit.*, 36; also "En las lomas altas desta ribera bibian los antiguos muy sanos y agora biben en lo baxo, aunque es contra su voluntad: anse muerto muchos despues que se juntaron en poblaciones formados . . . en nuestros dias ales empegido mucho el sarampion e birguelas y cada uno dende el año de sesenta en adelante hasta este año de ochenta."

As a result of the *reducción*, larger, compact settlements (pueblos) appeared. In Totontepec and Xuquila (pls. 40, 41) the Dominicans had their *vicaria* from which they visited the other villages. By the middle of the seventeenth century, Totontepec, the main settlement of the Mije, counted more than two hundred families⁹¹—well over a thousand inhabitants—as compared to 1700 inhabitants in 1921.⁹² Each village had a church, a new feature on the Mije landscape (pl. 33b). The formation of new settlements was an opportunity to introduce new types of houses, both as to design and materials. The present-day heterogeneity probably goes back to this time (pl. 21a, b).

During the Colonial period property rights were settled by Spanish law and titles were issued, but all in the most primitive manner. The Mije Indians had no written law and knew only the kind of ownership right that the Spaniard called “derecho de ocupación.” This squatter right was respected by the Indians themselves, but in order to protect their land from foreign intruders—Spaniards, for example, who might want to build up estates—they had also to obtain titles to their land according to Spanish law, *por derecho de título* (map 8). Since within each community the unwritten law was fully respected, it was sufficient and most economical to ask for a single title for the community land as a whole. In at least one case, five villages, Ayutla, Tamazulapam, Tlahuitoltepec, Tepantlali, and Tepuxtepec obtained one title according to which they owned their land *en mancomún*.⁹³ The title recognizes as the legal owner of the land “los Naturales y Común de Ayutla, Tlahuitoltepec, Tamazulapam, Tepantlali y Tepuxtepec.” Such a community, of course, never existed, but was merely a legal fiction created to conform to the requirements of Spanish law. How little actual community feeling there is between these five villages is revealed by the fact that as late as 1913–15 open warfare was carried on between Ayutla and Tlahuitoltepec, resulting in a number of casualties and the destruction of several ranchos.⁹⁴

In this way the villages complied with the Spanish law about written land titles. Within the limits of each community or group of com-

⁹¹ Burgoa, *op. cit.*, vol. 2, chap. 60: “De la casa y doctrina de Totontepec la principal en la Nación de los Mijes.” P. 294: “. . . el pueblo principal . . . tiene oy mas de docietos cassados. . . .”

⁹² Censo General de Habitantes, Nov. 30, 1921, Estado de Oaxaca, México (1927).

⁹³ Cf. MS title owned by Colonel Daniel Martínez, Ayutla, dated July 1721.

⁹⁴ See MS memoir and collection of documents carrying the title “Constancias de los acontecimientos acaecidos en este pueblo de Ayutla en los años 1913, 1914 y 1915,” owned by Colonel Daniel Martínez, Ayutla.

munities, the ancient unwritten native law holds. I could find in this system of customary tenure no traces of agrarian communism, which might be comparable to the *mir* system of the Russians, for example. Every Mije Indian—and this is true for all their settlements—owns his land by right of occupation, and is free to dispose of it by sale or trade. This applies primarily to the so-called *tierras de aradura*, the first-class land, which can be cultivated continuously. The poorer land on the mountain slopes is often designated as community land, since it has to lie fallow many years in order to recuperate, and so nobody can establish a real squatter right. Everybody is free to cultivate it if he wants to, but because of its poor quality no one is interested in doing so and thereby establishing ownership by permanent occupation. Thus every village has a great deal of this kind of land which is communal for all practical purposes.

Small areas of real communal land—that is, land that is so valuable that it has been set aside for the benefit of the community, and to which any individual would like to establish permanent rights if possible—still exist in the more backward Mije villages. Jayacastepec, for example, has reserved a small field which is cultivated by the school-children, the proceeds being used to maintain the school-building. Whenever a village is so poor that it has no ready cash for public needs, such as church, school, or taxes, the returns from such communal labor are used. Totontepec has a similar system whereby to provide for its church.

More progressive settlements, such at Ayutla, have long since abandoned this method and raise cash by taxing their inhabitants. According to the community book of Ayutla,⁹⁵ the villagers in 1726 still had

⁹⁵ Libro de comunidad de el Pueblo y Canezera de San Pablo Ayutla de la Jurisdicción de la Villa Alta de San Ildephonso . . . desde 16 de Sept^o 1726 añ que hizo la visita D. Men de Hechaxtena Alcalde mayor por S.M. de la Provincia de Villa Alta. MS belonging to Colonel Daniel Martínez, Ayutla.

Visita de 1726 . . . hise compareser ante mi a los Alcaldes, Regidores y demas oficiales de Republica que han sido desde el año pasado hasta el presente . . . y mediante . . . ynterprete . . . en el idioma mixe dixerón que se hallan con singuenta caubezas vacunas, que han separado y adquirido para bienes de su comunidad y de sus equilmos costeados los baqueros que las pastorean. Con lo que produse la cosecha de una milpa de mais que anualmente siembran hasen los gastos de su comunidad y lo demas . . . (here it is illegible) en el culto divino de su Iglesia.

Ayutla, Febr. 7, de 1730 . . . D. Antonio Blanco . . . Alcalde Mayor de la Villa Alta: . . . hize parecer ante mi á los que han sido ofc. de Rep^a los añ antecedentes despues de la visita que hizo mi anteceser . . . les mande me dieran rason y quenta de los vienes que an manexado por de ser comun en el tiempo de su empleo . . . dixerón que con la ocasión de los gastos que an tenido en seguir un litigio de defensa de sus tierras y otros mas agravios y vejaciones que cada día esperimentan de los criados y vaqueros de la estancia de San Bártolo no tienen vienes de comun. . . . ”

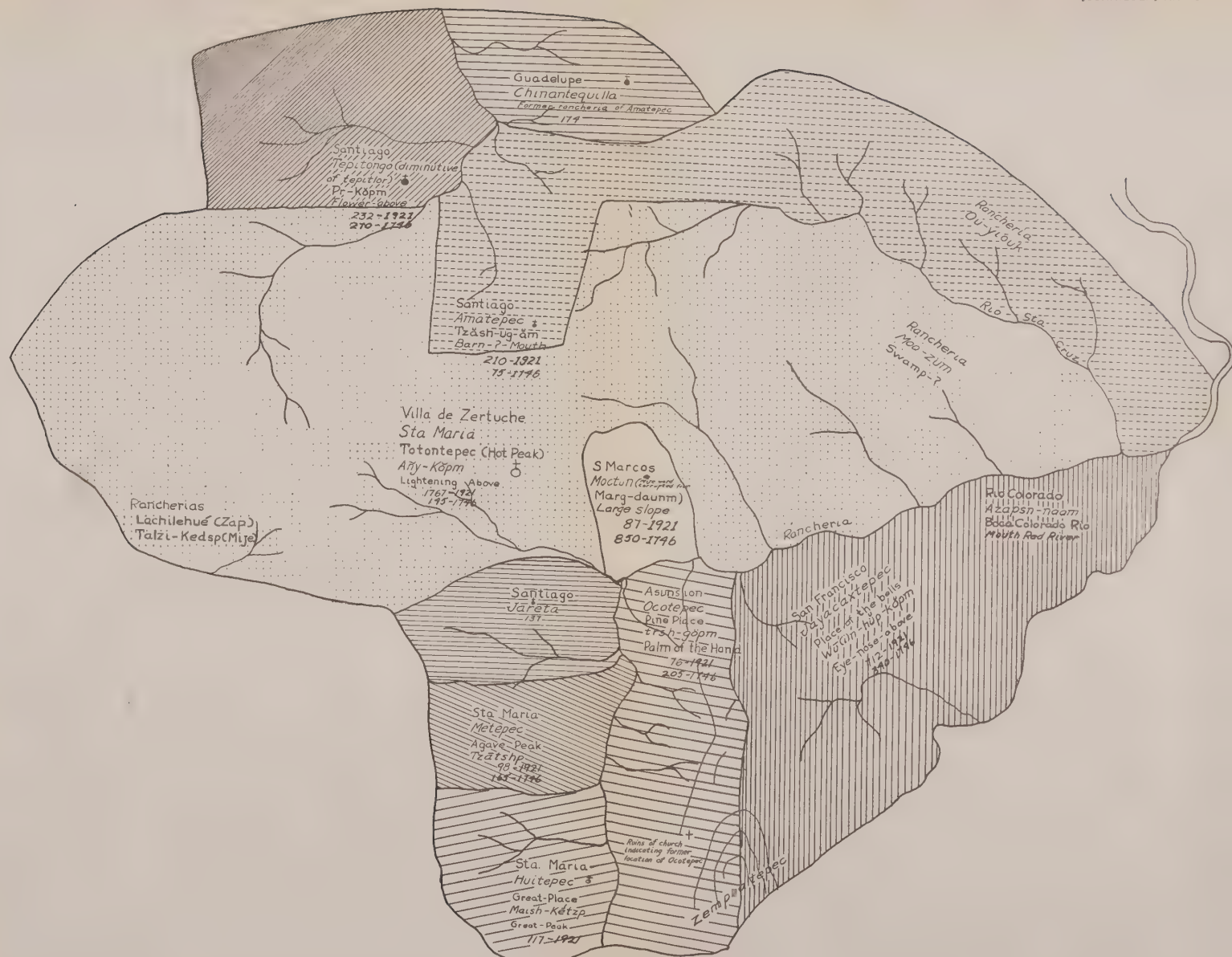
fifty head of cattle belonging to the community, and the produce from a cornfield which they all cultivated together took the place of taxes and paid for all the expenses of their church. For 1730 the book records that their community property was used to cover the costs of a lawsuit which they had brought against the neighboring estate of San Bartolo, whose cowboys had herded their cattle on Ayutla land. By this year (1730), the last community field of Ayutla had disappeared, and from then on community expenses were met by contributions. As recently as 1915, a strip of land along the border between Ayutla and Tlahuitoltepec, until then occupied by inhabitants of the latter village, was awarded to Ayutla and the community as such received the land. This has not yet passed into private hands.

Mije settlements since the Reducción—

The type of compact settlements at the time of the reducción in 1600 was not based on any ancient social institution and was besides too opposed to environmental conditions to become stable and permanent. Since that year the Mije settlements have undergone slow but profound changes, the general tendency of which has been to reestablish conditions of pre-Spanish days. A slow dispersion took place in all of the villages. In some cases it became complete. In Ayutla, for example, there is still the nucleus of church, school, municipality building, and a few houses, but by far the majority of the inhabitants—1400 in 1921—are scattered over a vast area measuring some fifteen kilometers from north to south and about twenty from east to west. The Ayutla people live permanently on their isolated ranchos, and only get together Sundays for church and the weekly market (pl. 5). The case of Jayacaxtepec is quite similar. Tradition has it that a cholera epidemic accelerated the general dispersion of the inhabitants, who fled to their ranchos never again to return to the village. A few huts clustered about the church are all that remain.

All the Mije churches have suffered in the course of time from heavy earthquakes, and have had to be rebuilt. With more or less reason, such reconstruction often took place on some other site that was considered more favorable. On the north slopes of the Zempoaltepec stand the lonely ruins of the church which, some forty years ago, formed the nucleus of the village of Ocotepec.⁹⁶ The inhabitants at

⁹⁶ The case of Ocotepec shows how necessary it is to be careful in drawing conclusions from place names. The name Pine Hill was given to the old settlement located in the high *tierra fría*. When the village moved, it took its old name with it into the *tierra caliente*.



that time chose to move their settlement to a lower, warmer place than the one the Spaniards had selected at the time of the *reducción*. All the Mije settlements are passing through a period of instability. Only the small *ranchos* (pl. 34) tend to become permanent. They are always situated on small areas of *tierra de aradura*, which can be kept continuously under cultivation.

Not all the Mije settlements have reached the same degree of dispersion. Totontepec, for example, is still in a transition stage. Around the church and the municipality building are grouped, in the midst of cornfields, the houses of all the inhabitants. Almost everybody has a second hut, however—his *ranchito*—in the mountains. Some of these *ranchos* are more than twenty-five kilometers from the village. The people go to them for short periods of time in order to work on their fields, but they always return to the main settlement, which they consider home. The *ranchos*, however, more and more tend to become permanent homes, and to group themselves under favorable conditions into *rancherías*. As time goes on, the connection of the *ranchería* with the original settlement becomes looser, and in the end it cuts loose entirely from its mother village and applies for a title as *pueblo*. In the Mijería, some *pueblos viejos* are in a defensive position, although to a lesser degree than in the Tzapotecada. They are losing ground to *pueblos nuevos*, which were formerly *rancherías* (map 8). On a map dated 1706 (pl. 40) Chinantiquilla is still represented as *Ranchería de Amaltepec*. At the present time it is an independent settlement (map 8). Like amoebae, the settlements divide and form new communities.

A perplexing aspect of the Mije settlements is the great variety of house types. The dwellings differ widely as to material, technique of building, and form. Some features are evidently due to Spanish influence. The tile-roofed stone and adobe houses, which in settlements like Tlahuitoltepec form the majority of the dwellings, are manifestly Mediterranean. The typical Mije house is thatched with straw, grass, or long needles of the ocote (*Pinus montezumae*). It never has a chimney. The smoke escapes through the roof, which, in time, acquires a dark black color. In the *tierra caliente*, walls are partly or entirely lacking and four corner posts support the roof. In higher altitudes, branches of bamboo sticks form the skeleton of the walls and these are generally filled in with dried mud. In the region of the great pine forests especially, a type of log cabin has developed

which strangely resembles the northern European and North American log cabin. The very same method of joining the beams is used. Since such a type of construction was unknown to the Spaniards, it is probably an old native form.

The houses are always located on or near the best soil that their owners possess. First-class soils—*terrenos de aradura*—are found only in patches in the rugged country. They are continuously under cultivation and form the main wealth of a Mije family. Although the Spanish law does not recognize the *derecho por ocupación* of the proprietors, this land is all privately owned. The returns from it, however, seldom suffice to maintain a family, and poorer land has to be cultivated as well. The latter is located on the forest-covered slopes of the mountains and its fertility varies. Some fields can be kept under cultivation for two or three successive years, while others yield a good crop for only one year. All of them require long periods of rest once they are exhausted; some have to lie fallow as long as twenty years.

Besides the stable agriculture of the *tierras de aradura*, each Mije family carries on a migrating type of farming on land which it does not care to acquire permanently. The result of this *Raubbau*—which consists of exhausting the soil of one field and moving on to another instead of fertilizing the first—is a terrible destruction of the forests. The procedure probably caused less damage in the pre-Columbian period when the inefficient stone hatchet slowed up the work of clearing the land. With the increasing population and the new steel implements, however, it is becoming dangerous. Original stands of forest are being reduced in area. The slopes of the mountains look like chess boards, each field a square covered with different vegetation, according to the time that it has lain fallow. Some communities still have vast reserves of virgin land which are only waiting to be opened up. Others are less fortunate. The result is border quarrels between the settlements, and since the old Spanish titles are rather vague as to boundaries, there is often a good chance to begin a lawsuit and sometimes actually to open hostilities, as in the case of Ayutla and Tlahuilottepec.

Agricultural methods are quite primitive. On the thoroughly cleared *terrenos de aradura*, a crude wooden plow is used. Oxen are the only draft animals. Horses, mules, and even donkeys are rare in the Mijería. The climate is too moist to use them as efficient pack,

riding, or draft animals. On the low-grade fields, the vegetation is cut down, burned when dry, and the land between the burned stumps worked with a hoe.

The main crops throughout the whole area are corn and beans, the staple foods of the people. The variety of climate between the somewhat more arid southwest, the cool high mountains, and the *tierra caliente* accounts for various other crops, which are generally used to trade with. Each pueblo has thus some product which it can exchange or export, though only in small quantities. The people of Yocoichi, for example, are the only ones to grow the red pepper, which is traded as far as the city of Oaxaca. Ayutla, in the southwest, is the chief stock-raiser, selling cattle to the settlements of the extremely rainy northern part of the country. The villages of the *tierra caliente* produce a great variety of fruits—oranges, grapefruit, avocados, different kinds of zapotes, mangoes, guavas, bananas, and many others. Sugar cane and coffee are particularly important. The cane is made into liquor in small primitive stills. The coffee, for the most part, is carelessly grown on small plantations, although there are some larger ones with as many as a thousand coffee trees. This beverage is not only the main drink of the Mije, but is also exported. Mixistlan and Tamazulapam produce the pottery for the entire Mijería. It is crude and varies in form among the different neighboring tribes. The shoe-shaped pot is typical of the Mije.

The difference in climate and the variety of production make for an exchange of goods, but it is slow and inefficient. Prices of the same commodity change strikingly from place to place. Corn in Totontepec, for example, cost three times as much as in Ayutla, which is only two days' ride distant. Remarking the fact brought from the most enterprising citizens of Totontepec the mild statement that it would certainly be a paying proposition to buy corn in Ayutla and sell it in their native village. No such activity followed, however. The explanation of the slow-moving trade in the interior of the Mijería is the difficulty of transportation. So far there is no road for wheeled traffic in the entire area. The trails are all laid out Indian fashion, straight up and down slopes. Most of them are in very poor condition, and some become almost impassable during the rainy season. Neither is there an efficient means of transport. Horses, mules, and pack animals do not stand the hardships long. During the rainy season, on a journey that lasted only a few days, we completely ruined

two good pack horses. All the articles of trade in the area are transported by human carriers. Accustomed to heavy loads from their infancy, the Mije Indians are remarkable in this respect. They carry the freight on their backs and hold it in place by a belt which passes over their foreheads.

Trading takes place on market days. The inhabitants of more progressive villages carry their products as far as the town of Oaxaca where they offer them for sale at the Saturday market. The inhabitants of the more backward places like Yocoehi, Jayacaxtepec, and others never go outside the Mije territory. Their complete ignorance of any language but their own is largely responsible for this voluntary isolation. The only outsiders who come to trade among the Mije are the Tzapotec, mainly men from Mitla. Mexicans, Turcos, Chinese, and other foreigners who carry on petty trading in other parts of Mexico, never enter the Mijería.

Mental culture of the Mije—

The pressure of outside influence was strongest on the Mije in the early Colonial period, when the Spaniard forced them to change their type of settlement and the Dominican monks began to convert them. Their style of clothing, originally a wide cotton gown, early became Spaniardized. Later, when they were permitted to drop once more into their original state of cultural isolation, they took nothing of the higher mental culture of their neighbors, the Tzapotecs, nor did they incorporate anything of European culture. Of course their way of living underwent certain changes, but they were very slow to alter their mental culture. It was only two years ago that the federal government began to appoint schoolteachers for the Mije settlements. Time alone can tell if this is to be the beginning of the penetration of European culture into the area. Even supposing that the well intentioned work will become permanent, its success is uncertain. The character of the settlements, with their isolated ranchos spread widely over a rugged country, makes school attendance difficult. Another question is whether "*la incorporación del Indio a la civilización*," a catch phrase much in use in government circles, will do the Mije any real good. As far as my own observation goes, the main trouble in Mexico is largely due to the fact that the aboriginal inhabitants have been brought into contact with an alien culture, of which they accept only the external forms without being able to absorb the content. When Tzapotec and Mije Indians are left to themselves to administer their communities and organize them socially, they have proved them-

selves able to develop an efficient system with high moral standards, which the most advanced western civilization can but envy. As soon as the governmental forms of an alien pattern are imposed upon them, however, abuses and failures such as are already occurring in the organization of the different Mexican states, come to pass.

Up to the present, the Mije Indians still speak their native language. There are whole villages in which nobody understands any Spanish. Only in the more progressive settlements are there groups of men who talk the foreign tongue. Mije women are all monolingualists.

Christianity has been accepted throughout the area, at least nominally, but it has taken over much of the original Mije system of idolatry, which persists even now in some places. Many homes still keep their old idols, and sacrifices of birds take place on Christian holidays. Such a situation is not surprising, considering the slight attempts of the Church to penetrate the area. Even in ordinary times many a village receives a visit from the Catholic priest only once or twice a year. These priests deliver their sermons and perform all the ritual in Spanish, which the majority of the people, and particularly the women, cannot understand. They restrict their activities in the main to baptizing and marrying, and last but not least, to the collection of fees for these rites. Consequently large numbers of the people do not seek the services of the church. Marriage is largely an affair between two persons whose union is respected by the community, and whose offspring have rights just the same as though their parents had undergone a civil or religious ceremony.

The administrative organization of the Mije communities is identical with that of the Tzapotecs. On the first of every January, the men of the community elect their officers—*presidente*, *síndico*, *secretario*, etc.—who do all the work without salary. The machinery of government operates in an admirable way and does great credit to the people. All questions bearing on the interests of the village are dealt with. Taxes are levied, family affairs arranged, public works carried out. Whenever men are called upon to work for their community, they do so without any pay. The state taxes alone are paid in cash.

The excellent organization of the Mije communities is certainly not due to any Spanish influence. The earliest Spanish reports available express as much admiration for their administrative system as for that of the Tzapotecs.⁹⁷

⁹⁷ Santamaria y Canseco, *Relación de Nexapa*, 1579, *op. cit.*, no. 15, p. 34.

CONCLUSION

In the region studied, man has exerted his influence on the landscape through long periods of time. Traces of his activity are to be found everywhere. Today the landscape has preserved its natural character only in restricted areas. An attempt has been made to indicate, at least in outline form, the slow and complex transformation from a natural to a cultural landscape. Many aspects of this process still remain in obscurity, and some will probably always remain so. Certain features of the development, however, may be genetically explained. The origin and growth of human settlements and the extension of cultivated land at the expense of the natural vegetation mark a particularly conspicuous fact in the history of the landscape. It is nature itself that has influenced this development, the main contrast being between the mountains and the valleys.

But certain aspects of the present-day settlements and their field system cannot be interpreted in terms of environmental influence. Mountain Tzapotec and Mije inhabit a very similar country, yet their entire culture has developed in quite different ways.

If the evidence has been correctly interpreted, there was an ancient difference in their social organization which resulted finally in a wide distinction between the whole culture of the two tribes. The Tzapotec cooperated in the clearing of their *parajes* and then distributed this land among the families of those who had helped in the work. This resulted in a dispersion of the land owned by one family. As the settlements grew and the cultivated area around them extended, this condition was augmented and kept the inhabitants from moving out of the village and building up isolated farmsteads on their increasingly distant and scattered fields. Among the Tzapotec, therefore, field dispersion resulted in the growth of larger, more compact settlements, in which a differentiation of activities became possible. Crafts, art, and science developed and were maintained by the mass of the population which nevertheless remained agricultural. In this respect, conditions among the Tzapotec were identical with those of the Nahua Indians of the highland of Anahuac.

The Mije started the transformation process in a slightly different way. Among them each family cleared for itself the land it needed for cultivation, and erected a hut in the midst of its fields. Numerous isolated farmsteads sprang up in the forest. The distance from neighbor to neighbor was often great. Every man was confronted by all the tasks of everyday life. There was no differentiation of activities, and, in spite of the proximity of more highly developed tribes, no higher civilization was obtained.

APPENDIX I

Tecomastlahuaca.

Año de 1578.

Diligencias de información sobre el patrimonio que pide Don Francisco de Arellano, cacique del pueblo de Tecomastlahuaca.

INTERROGATORIO

En dos dias del mes de mayo de myll y quinientos y setenta y ocho años, antel dicho señor corregidor y en presencia de mi el dicho escrivano, parecio presente don Francisco de Arellano cacique y governador del pueblo de tecomas-tlauaca y presento la peticion del tenor siguiente:

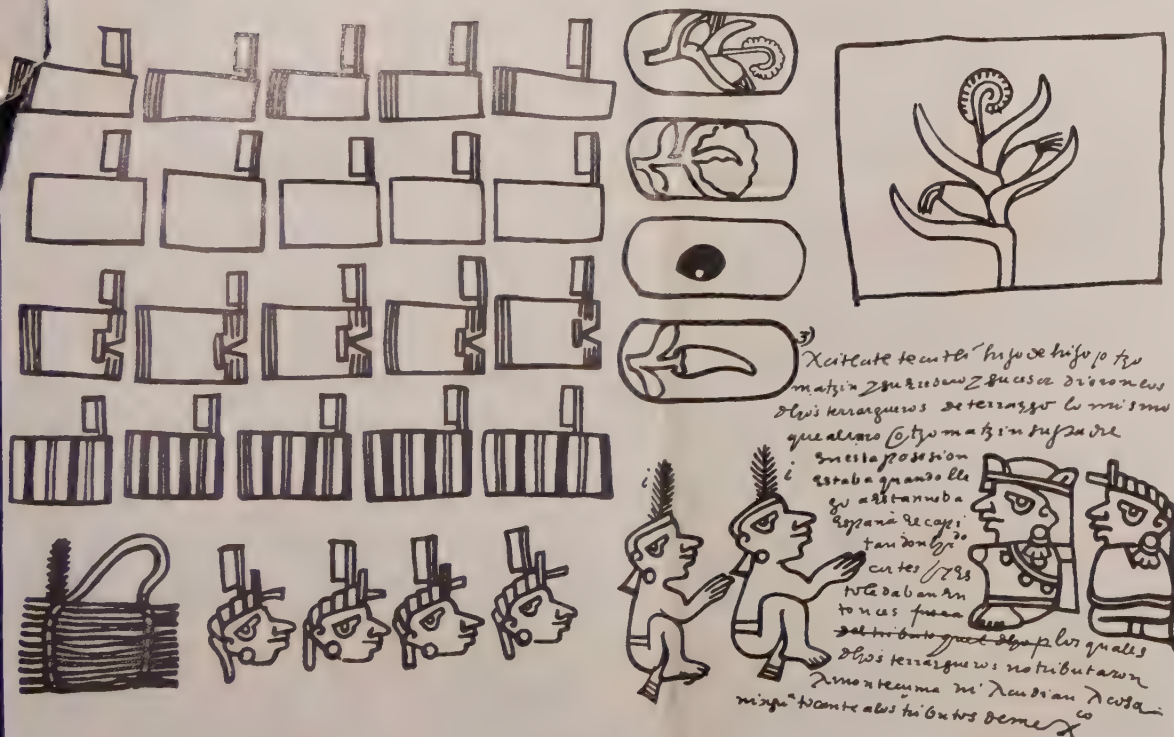
Don Francisco de Arellano governador y cazique natural deste pueblo de Tecomastlauaca, parezco ante vuestra merced y hago presentacion deste mandamiento de su Excelensia dirigido a vuestra merced en que por el se le manda averigue y provea sobre lo por mi parte pedido a cerca de los terrazgueros que tienen las tierras de mi patrimonio.

A vuestra merced pido y suplico obedezca y cumpla el dicho mandamiento como en el se contiene, y a los testigos que por mi parte fueren en el caso presentados los mande examinar por las preguntas siguientes; y sobre todo pido justicia.

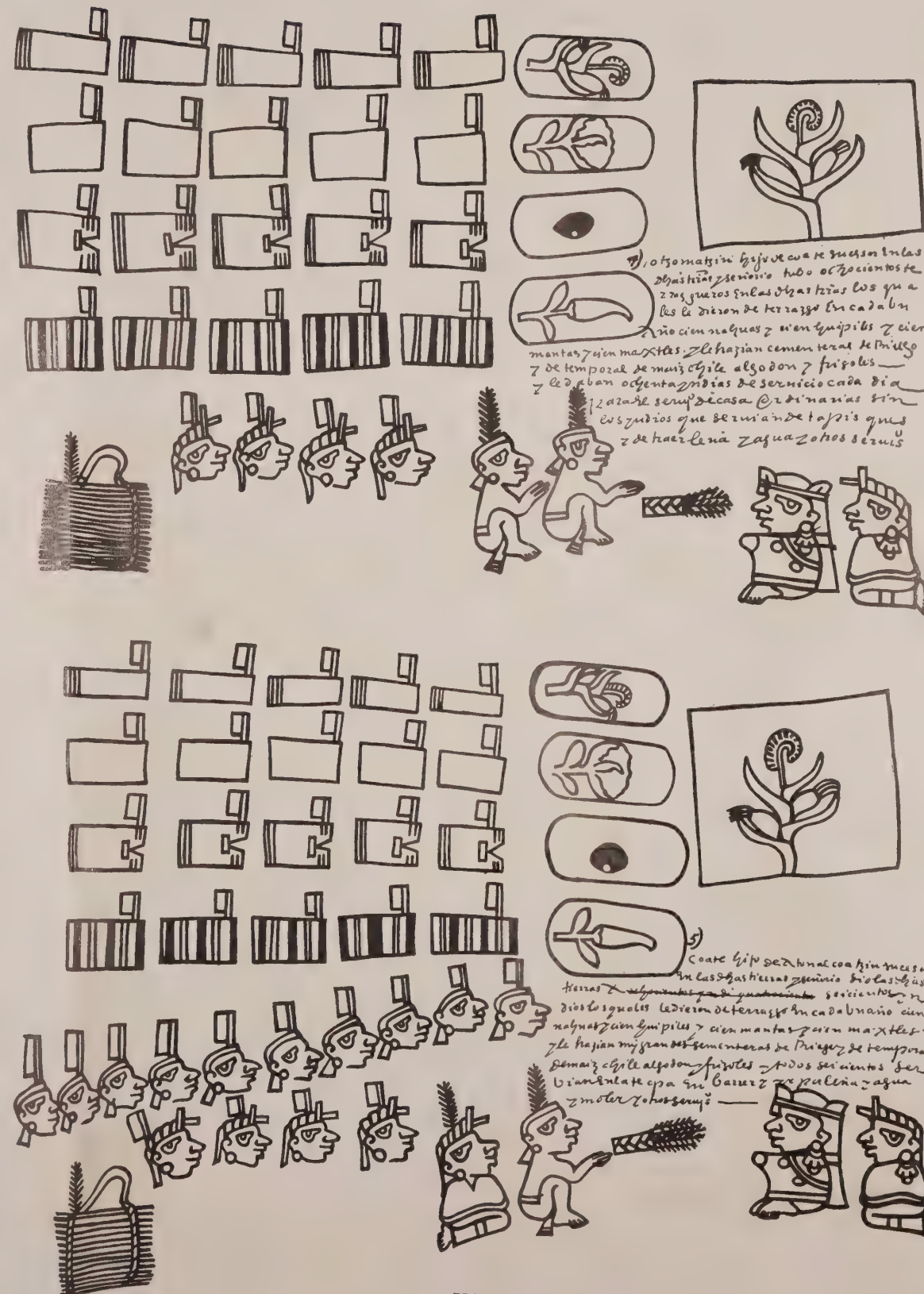
1. Primeramente sean preguntados si conocen al dicho don Francisco de Arellano y si conocieron a don Fernando y a doña Beatriz, padre y madre del dicho don Francisco, y si conocieron o tienen noticia de los demas caciques y señores naturales deste pueblo, a quien subcedio el dicho don Francisco y los dichos sus padres y si saben las tierras de que se nombran *Tecomastlauaca la vieja* y *Tlahuixtlahuacan* y *Chapolixtlauacan* y *Yozochiyo*, que son las que se nombran Tecpancaltitlan, y si conocen a los terrazgueros que las tienen a renta digan lo que saben.

2. Ytem, si saben que las dichas tierras de Tecpancaltitlan que son en los dichos pagos de Tecomastlauaca la vieja y Tlahuixtlahuacan y Chapolixtlauacan y Yozochiyo, son tierras patrimoniales del dicho don Francisco de Arellano que las huvo y eredo de sus padres y ahuelos como cosa anexa y perteneciente al mayorazgo y cacicazgo deste dicho pueblo y asi las tuvieron y poseyeron los caciques del como cosa suya propia y incorporada y avinculada al dicho mayorazgo y asi las tiene y posee el dicho don Francisco y sus padres y ahuelos las poseyeron y tuvieron por suyas propias sin que el pueblo ni otra persona ninguna por ninguna via tubiese en ellas parte, derecho ni auccion, lo qual es publico y notorio y memoria de hombres no es en contrario, digan etcetera.

3. Ytem, si saben que los dichos caciques y senores naturales deste dicho pueblo, antecesores y ahuelos del dicho don Francisco recogieron en las dichas tierras a muchos yndios forasteros y otros esclavos suyos y les dieron las dichas tierras a renta como a terrazgueros, los quales por razon del terrazgo de las dichas tierras tributaban y tributaron a los dichos caciques mucha cantidad de



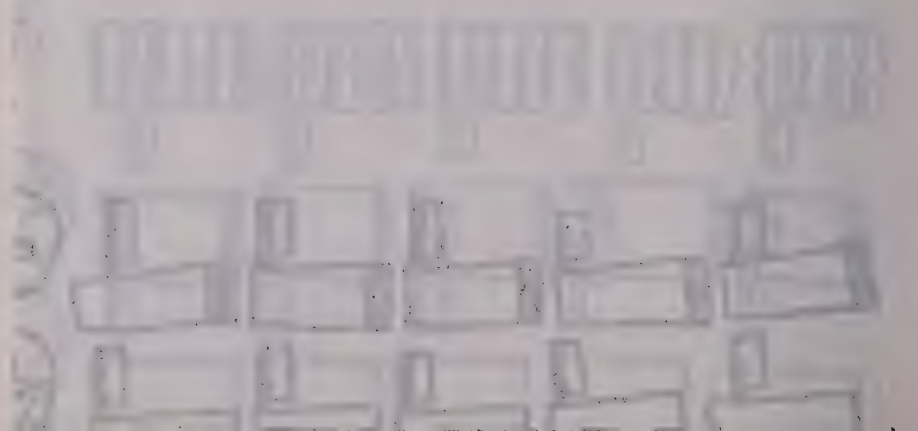
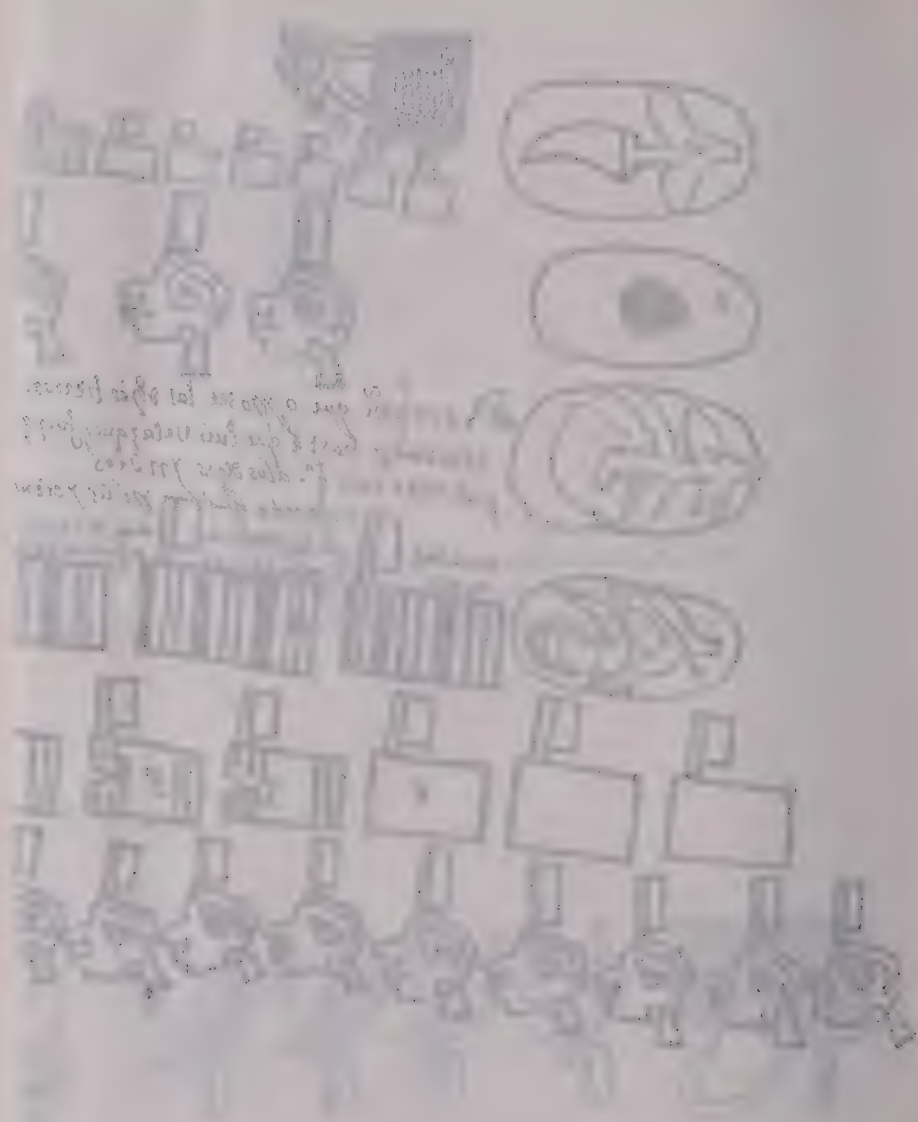
PLAN 1-A



PLAN 1-B



PLAN 1-0



nahuas huipiles y mantas y les daban mucho servicio personal y les hazian muchas y muy grandes sementeras conforme a una pintura que con este ynterrogatorio se presenta, al qual pido se les muestre a los dichos testigos, digan etcetera.

4. Ytem, si saben que los dichos terrazgueros que asi tenian a tributo las dichas tierras en tiempo de la gentilidad puesto e asi queste dicho pueblo estubiese sujeto y tributada a los señores de Mexico nunca ellos tributaron ni contribuyeron en cosa alguna para los dichos tributos de Mexico y de todos eran libres y esentos y solamente pagaban a los dichos caciques deste pueblo su terrazgo como hombres que bivian y estaban en sus tierras y en esta posesion e costumbre estaban al tiempo quel Capitan don Fernando Cortes llevo a esta Nueva España a la conquistar, y despues aca permanecieron siempre en ella y aunque este pueblo estubo encomendado en Francisco Maldonado y en don Tristan de Arellano nunca los dichos yndios terrazgueros que estaban en las dichas tierras tributaron a los dichos encomenderos, sino solo a los dichos caciques y al dicho don Francisco su sucesor segun su antiquissima e ynmemorial costumbre, hasta que esta ultima vez que fueron contados, el Juez que conto este pueblo, que fue Luis Velasquez, los metio en la dicha quenta y desde entonces aca son constrenidos a pagar el tributo del dicho encomendero, digan etcetera.

5. Ytem, si saben que las dichas tierras son todas de regadio muy fertiles y abundosas y en ellas se coje maiz dos veces al ano y mucho trigo, asi frijoles y calabazas y muchos morales y tienen otros muchos y muy grandes aprovechamientos, y que si el dicho don Francisco las quitase a los dichos terrazgueros y las sembrase e beneficiase e metiese en ellas ganado le valdria mucho mas de lo que los dichos yndios le pueden dar y le seria de grandisimo provecho y acrecentamiento de su patrimonio, digan etcetera.

6. A la sesta pregunta digan si saben que al tiempo quel dicho Juez hizo la dicha ultima quenta en que metio a los dichos yndios terrazgueros, tributaban ellos al dicho don Francisco por razon de las dichas tierras ochenta huipiles en cada un ano y ciento y veinte mantas y le daban cinco tapisques de servicio y cinco molenderas cada dia y le hazian sementeras de maiz de riego y de temporal y de algodón chile y frisoles y le hazian otros muchos servicios que los testigos diran y esto era fuera de la tasacion quel pueblo le daba como a su cacique por que estos le daban lo susodicho por razon de las dichas tierras y ellos no tributaban otra cosa alguna, digan etcetera.

7. Ytem, si saben que todo lo susodicho es publico y notorio y publica voz y fama, digan etcetera.

DON FRANCISCO DE ARELLANO.

(rubrica)

Testigo. E despues de los susodicho en el dicho pueblo y en el dicho dia cinco de mayo del dicho año, el dicho señor corregidor y en presencia de mi dicho escrivano para la averiguacion y ynformacion que de oficio esta haziendo, mando parecer ante si a Juan Lopez yndio mazegual natural del dicho pueblo de Tecomastlauaca terrazguero, del qual fue tomado y rezevido juramento segun forma de derecho por Dios y por Santa Maria y por la Señal de la Cruz, en que puso su mano derecho, so cargo del qual prometio de dezir verdad de lo que supiere y le fuere preguntado, e a la absolucion del dicho juramento dixo si juro y amen; e siendole preguntado por el tenor del mandamiento de su Excelensia mediante el dicho ynterprete, dixo: que lo que dello sabe y pasa es que las tierras de Teepancaltitlan contenidas en el dicho mandamiento de su Excelensia, que estan repartidas en quatro pagos que son Tecomastlauaca la vieja y Chapulyxtlauaca y Yozochiyo y Tlauxtlahuacan, sabe que son tierras patrimoniales y del cacicazgo y servicio del dicho pueblo y ansi como tales este testigo vive en un pago que llaman Tecomastlauaca la vieja, y alli lo dexaron sus padres y aguelos, los cuales le dixeron a este testigo como siempre tributaron a los caciques y senores de Tecomastlauaca y en reconocimiento dellas les davan cantidad de naguas, huipiles, mantas, mastles y les labravan y beneficiavan munchas sementeras de riego y de temporal y le davan servicio personal en sus casa y otros servicios como a tales senores y los reconocian segun su antigua costumbre, las cuales dichas tierras son de riego y muy fertiles y abundosas y en ellas cojen mucho maiz, frisoles, algodón, trigo y otras legumbres de que se aprovechan; en las cuales ay hasta cantidad de sesenta yndios mazeguales, casados, que aunque antiguamente eran muchos hasta ochocientos yndios, los cuales se an ya muerto y huido, que eran esclavos y advenidizos, los cuales poblaron sus antiguos por ser como eran de su patrimonio y cosa perteneciente al dicho cacicazgo y servicio del dicho pueblo de Tecomastlauaca. Y esto es lo que sabe y la verdad y lo que en el caso pasa para el juramento que fecho tiene, en lo qual aviendolo entendido mediante el dicho ynterprete, dixo que en ello se afirmava y afirmo y ratificava y ratifico y no firmo por que no supo escrevir y declaro ser de edad de setenta anos pocos mas o menos y que no le tocan las generales de la ley que le fueron fechas. Firmolo el dicho señor corregidor e ynterprete.

DIEGO DE TERRAZAS.

(rubrica)

FRANCISCO PERALES.

(rubrica)

Ante mi

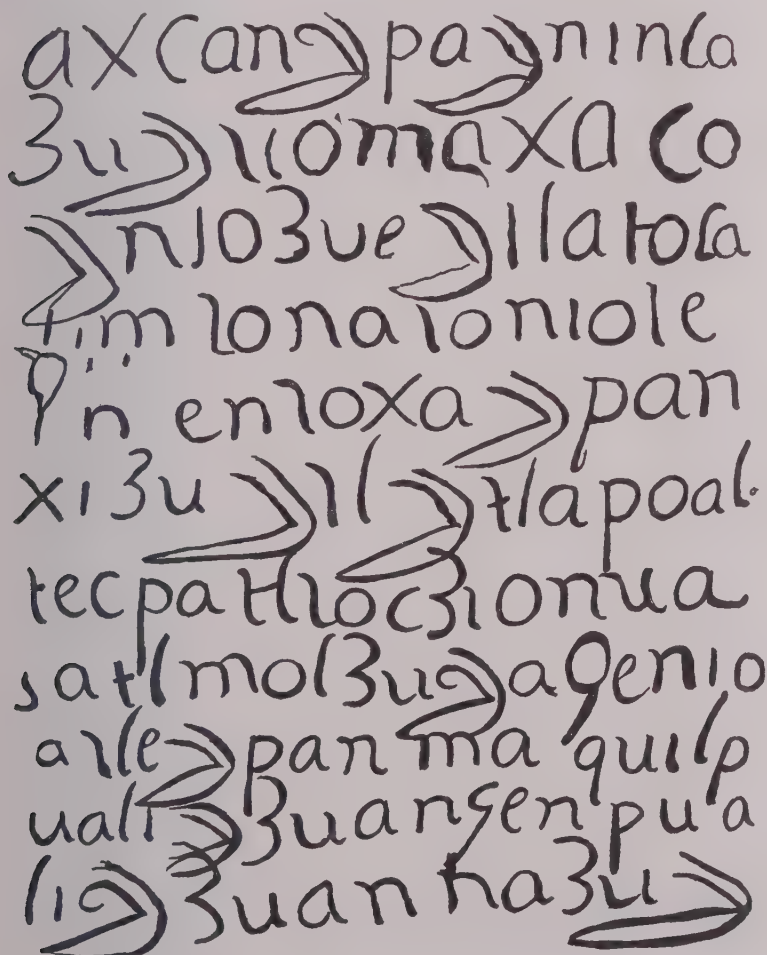
DIEGO VALADES.

Escrivano nombrado.

(rubrica)

APPENDIX II

Codex Cuajimalpa: Original in the Archivo General de la Nación, México, Ramo de tierras, vol. 3684, expediente 1. Contains the oldest recorded attempt of an Indian community to adapt itself to the Spanish juridicial ideas by obtaining a written record of the historic rights of occupation of its land. Latin letters have been used for the Aztec text. Compare the copy of the first page of the original. A translation of the Aztec text into Spanish was made in 1865 by the interpreter of the General Archives, at the request of the villagers who donated the original document to the Archives. The English translation is taken from the Spanish. As a record of the early history of a rural Mexican community, the Codex Cuajimalpa is unique. As to the description of land boundaries, the document may serve as a good example of similar preliminary land titles worked out by the Indians themselves.



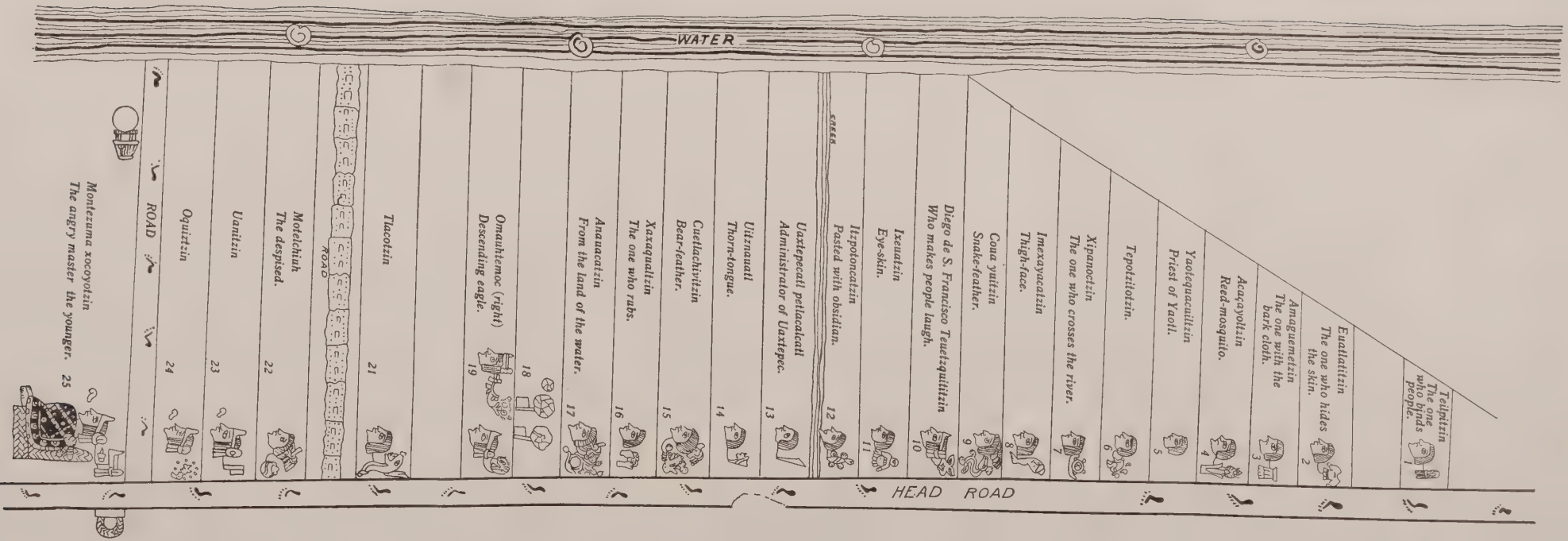
axCangpa nina
 zuu uoma xa co
 nio3ue ylla tola
 tim lona toniole
 pin enloxa span
 xizu yll yllapoal
 tecpa tlioc3ionua
 satl mol3u3a genio
 aile span ma quip
 ualt3 uan3en pu a
 lig3 uan ha3u

Fig. 7. Copy of first page of land title of Cuajimalpa A.D. 1534.

TRANSLATION OF THE LAND TITLE OF CUAJIMALPA

(Italics indicate place names still familiar to the people of the village.)

Now in this time arrived our great Lord Don Antonio de Mendoza in the period of the year Flint, of the century Rabbit, Two Canes, which translates itself into 1534 years, here in our village, where is Saint Patron our beloved father San Pedro Quauhximalpan, where we have been given land and have formed settlements, here to be seen in this document which embraces the villages San Bartolome Apipilhuazco, San Bernabe Atzoyapan Zoquiac, following the limits they come to Santa Maria Magdalena, they come to the settlement *Atetelpan* Axoitzin, turning around the limits come to San Lorenzo *Acopiltzinco*, where is Saint Patron our beloved father San Pablo, there they come to the settlement *Chimalpan*, they come to *Casa Grande*, they come to *San Juan Memetla*, they come to *San Martin*, where the road leaves for Toluca, they come to the post Texayacatlitan, following the limits they come to the point *Tepehuizco*, following the limits they come up to the tops of the hills on which there are high plains, following the limits they come to a plain called *Huapalcalco*, they come to the place called *Tlapatlahuaya*, following the limits they come to the post *Quauhzoyac*, following the limits they come where it is called *Coliuhcan*, they come to the place of *Tlapitzahuayan*, they come to the post of Santo Domingo, passing by where the cross stands and the post called Teocaltitlan Coliuhcan *Coloyan* belonging to the inhabitants of the village, following the visible land limits of San Bartolomé, property of our main village, the limits follow and are visible where it is named *Atlapilhuazco* San Bartolomé, one perceives the water which runs toward Tetelpan and before the view rises the frontier of the post called *Tepozquahtla* visible run the limits of the land of the people of San Mateo, they ascend to the post of *Zoquiac*, follow the water and get to the place called *Atlantlapecho*, follow the limits and arrive at the post which they call Quahulicapan, ascend to the post *Tlaixcotexcalticpan*, following the limits through forest they come to the post which they call *Tlalochpanca*, following the limits they come to the place called *Alcoylan* Quauhucpantla getting to the mountain crest close by the post of *Coliuhcan* to meet the great plain at the foot of the place *Quauhzoyac*, follow the limits and come to the point of *Tlalochpanco* Tepiton which closes the post of *S. Mateo Tlatenanco* Quhxochtenco, follow the limits and arrive at the place of *Atlapechhualtitlan*, they ascend toward sunset from where comes all the sand used in the neighborhood, ascending the great gully, there comes out the road to Toluca descending the middle of the mountain, ascending to the post of *Cihuapilitlan*, descend the border to the post called *Tepixileco* bordering against the post called *Tepozquahtla* this is all belonging to this settlement of Quauhximalpan, it is evident where the border line runs, here is where the road was built and this was written so that the people of the village shall ever know where the post called *Tenexcalco* stands, there in front begin the houses, the road passes along the black hill, which they call *Cacalotepec*, which is also within the gully, the limits follow and arrive at the post which they call *Acupilco*, comes the post called *Ameyalco*, they arrive at the post of *Coliuhcan* Otompan where the people of Toluca come in view, follow the limits and arrive at the post of *S. Bartolome* where there is a place called *Pachocan* they come to *Tlatlenanco*, following inside





of the border, one comes to *Tepehuítzoo*, from where a road runs over the mountain to the post of Ayalan, going to the post of Tlateochihualapan Aquequelco; this is land which belongs to our village of Quauhximalpan, for which reason we write this as a statement and to have it known how we have been granted lands when our great Marqués arrived, villages have been founded, now our great savior and master within our houses, now we have gathered together all the people of the village and in our presence the grant has been finished for which reason we made this written statement since it appeared good to us to set down our chivalrous names. Don Gabriel when he ascended as a governor it was like when D. Melchor Tezozomocin made himself chieftain and settled at the border of the forest; Juan Crisostomo Tenhque. I Lucas Mateo, notary, and all the Lords who taught us and gave us to know our great Lord Don Fernando Cortez.

Codex Teclomastlauaca.

Presented in 1578. Original in the Archivo General de la Nación. México. Vol. 2692. Ramo de tierras.

Size of the original drawn on agave paper 140 × 40 cm. The black ink of the hieroglyphs is perfectly preserved, whereas the Spanish script is quite faded. The first cacique of Teclomastlauaca was Tlatlatonatin; the second, his son Aalpiaco Chicomesutchil; the third, Atonalcoatzin; the fourth, Coatl; the fifth, Alvaro Otomatzin; the sixth, Citlatl-Tecutli, whose heir became his sister, Doña Beatriz, married to Fernando de Arellano. They were succeeded by Francisco de Arellano. Allowing an average of 30 years to each generation, the foundation of the feudal estate would be dated 1368.

Explanation of hieroglyphics:

- | | |
|-----------------|-----------------|
| a) Chili | f) Blanket |
| b) Frijol, bean | g) Huipil |
| c) Cotton | h) Twenty |
| d) Maize | i) Four hundred |
| e) Women skirt | |

Translation of Spanish explanations:

1) To don francisco who today possesses said lands they gave land rent until luis Velasquez, judge who assessed this village counted said Indians too. 80 Huipiles and 120 blankets and they worked his maize fields, the irrigated ones and those on rainfall and cotton and pepper and besides they gave him five carriers and five servants.

2) To don Fernando and doña beatriz his wife heir of her brother said Citlatl Tecutli they gave as rent for the other fields 60 women skirts, 60 huipiles, 60 blankets and they gave him 10 Indians and 10 Indian women for general service and they worked his fields, the irrigated ones and those on rainfall of maize, pepper, cotton and beans and lumber and other services and wove for him and although said village had been granted to Francisco Maldonado never said Indian tenants (terrasgueros) had paid tribute to him keeping up the ancient habit not to pay tribute to the Mexican masters but only to the master of said lands what they gave to said chieftain they gave besides the tribute of the village as their master and native chieftain since they were tenants and gave this for said lands.

3) To Citlatl Tecutli son of the son Otmomatzin and his heir and successor gave said tenants as rent the same as to Alvaro Otmomatzin his father. He was in possession at the time when the Captain Hernando Cortes came to New Spain and this they gave to him. Said tenants did not pay tribute to Monteguma and they contributed in no way to the tributes to Mexico.

4) Oztomatzin son of Coatl successor on said lands and feudal estate had 800 tenants on said lands they gave him as rent every year 100 women skirts (nahuas) and 100 dresses (huipiles) and 100 blankets and 100 breech-clouts and they worked his fields those which were irrigated and those on rainfall of maize, chili, cotton and beans—and they gave him regularly every day 80 Indian women as servants and for housework not to say of the Indians who served as “tapisques” that is to say to fetch wood and water and to do other services.

5) Coatl son of Atonalcoatzin successor on said lands and feudal estate gave said lands to 600 Indians who gave him as rent every year 100 women skirts (nahuas) and 100 dresses (huipiles) and 100 blankets and 100 breech-clouts and they cultivated for him very large fields irrigated ones and such on rainfall of maize, pepper, cotton and beans and all 600 served in his palace (tecpa) sweeping and fetching wood and water and grinding and doing other services.

6) To Atonalcoatzin son of Chicomesuchitl gave said tenants the same as to his father and grandfather.

7) To Aalpiaco Chicomesuchitl son of Tlatla said tenants gave the same as to his father.

8) The first chieftain who gave the lands for tribute called Tlatlatonatin.

9) These are the lands of the estate which are given for tribute in which tilted and settled Tlatlatonatin to whom belonged 20 married tenants.

10) To Tlatlatonatin who gave said lands for rent was given by 20 Indians who settled on them as tenants 20 dresses (huipiles) and 20 blankets (tilmas) and the maize fields irrigated ones and such on rainfall and they sowed pepper, cotton and beans. They served ordinarily in the palace (tecpa) every day as (the following is indecipherable).

11) This painting has been presented by Don Francisco de Arellano chieftain of Tecomastlauaca before the illustrious Señor Diego de Terrazas corregidor of said village through which have been examined the witnesses who he presented about the estate which he claims in the lands contained.

Signed: DIEGO DE TERRAZAS.

Before me: DON JUAN BALADES, appointed notary.

Aztec Codex. Collection of A. von Humboldt in the Royal Library at Berlin. Agave paper, 68 × 40 cm. Facsimile in Kingsborough, Mexican Antiquities, vol. 2. Interpreted first by A. von Humboldt in (Vue des Cordilleres et Monuments des Peuples indigenes de l'Amérique) as “Généalogie des Prince d'Azcapotzalco.” Recognized as field map by E. Seler (*Die mexikanischen Bilderhandschriften Alexander von Humboldt's in der Königlichen Bibliothek zu Berlin* [Gesammelte Abhandlungen Berlin 1902]. 1:197–227).

The location of the *paraje* which the map represents is unknown. Seler suggests the lands north of Azcapotzalco toward Guadalupe. The water at the left would then represent the lake and the road at the right the one running along the foot of the hills of Tenayucan and Guadalupe.

There is a striking similarity in the pre-Columbian field pattern represented in the Codex to that developed by the inhabitants of Mitla in the *paraje del monte*, 1883 (map 5). In both cases the fields had the form of strips and were accessible by a headroad.

In the Humboldt codex twenty-three of the twenty-seven fields (*milli*) contain the hieroglyphs of their owner. Among them is first, Montezuma Xocoyotzin, ninth King of the Mexicans. At least five of the remainder stand for prominent Mexicans of the period of early Spanish influence.

PLATES 1 TO 47

PLATE 1

a. Looking southeast, over Oaxaca, into the depression of Tlacolula.

b. The upper end of the depression of Tlacolula. Mitla on the horizontal valley floor. On the slopes to the right stands the pre-Columbian stronghold, El Fuerte. The white Mitla Trachyte outcrops all over the central part of the picture.



a



b

PLATE 2

a. Looking southward over the depression of Tlacolula, from the mountain slopes above Teotitlán del Valle. The southern part of the mountain frame appears in the background. Out of the horizontal valley floor rise the isolated hills of Macuilsochil.

b. Toward the southeast, within the limits of the hacienda Xagaa, the wide depression of Tlacolula narrows into dale-like valleys. The horizontal valley floor disappears. Alluvial cones slope gently down to the bed of a creek.



a



b

PLATE 3

View of Monte Alban from the El Fuerte hill, close to the city of Oaxaca. The ruins of Monte Alban are visible on the sky line. The hills have been entirely deforested by man. Sharp gullies are due to effective erosion on the bare slopes. The houses in the foreground belong to a suburb of Oaxaca which still bears the name of El Marquesado. This referred to Fernando Cortez, first Marqués del Valle de Oaxaca. El Marquesado formed the center of his large estate in the Oaxaca valley. Although the land was part of one large grant of the earliest Colonial period, it has evidently preserved the ancient Tzapotec field pattern. This fact recalls that under the English open field system the common fields—the arable land—of a village community also preserved under a manorial lord the field system of shots divided by balks similar to that of the Tzapotec. As a matter of fact, Cortez restricted himself to imposing a tribute on his new vassals, making no attempt to change their agrarian system (cf. *Tasación de varios pueblos que tenia Hernán Cortes, 1537*, in M. Cuevas, S.J., *Cartas y otros Documentos de Hernán Cortes* [Seville, 1915], 183 ff.).

Monte Alban



PLATE 4

a. The valley of the river of Yavesia somewhat upstream of Lachatao. Well developed erosion terraces on both slopes carry fields. The forests are sadly devastated; only poor second-growth brush remains.

b. Looking west from the road from Ayutla to Tamazulapan. The level summit surfaces are remainders of an older land surface. The terraced slope of an erosion valley in the foreground.

The original forest cover (pine forest) of the slopes has been cleared in order to provide short-lived fields.



a



b

PLATE 5

View from the plaza of Ayutla toward the west. Although taken from the central square of a settlement of 1400 inhabitants the picture discloses but a few dwellings. The villagers live scattered over the mountains on isolated farms. The group of men in the foreground came to attend the usual Sunday fair.

The sky line shows the gentle rise from the left (S) to the right (N) of the general land surface. Erosion has dissected the unit block into an irregular mountain country. The Rio de Ayutla and its affluents have shifted their headwaters toward the south beyond the highest elevations.

Natural vegetation is sadly damaged by the careless agricultural methods of the Mije.

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[SCHMIEDER] PLATE 5



PLATE 6

a. An *ocotal* (pine forest) on Ayutla territory in the Mije country.

b. Rain forest of the upper *tierra caliente* on the Atlantic slopes of the Zempoaltepec Mountains. The graceful tree ferns mark the beginning of a more luxuriant vegetation.



a



b

PLATE 7

a. Most luxuriant types of rain forest on the Atlantic slopes of the Zempoaltepec. Thick undergrowth and numerous epiphytes characterize the jungle. For dimensions compare the size of the men in the lower left corner.

b. Outliers of the "needle forest" of Guajimalpa (Mexican, where the lumber is cut). Single trees of *Abies religiosa* (?) mark the retroceding forest border.



a



b

PLATE 8

a. Isolated stand of palm trees on territory of the village San Lorenzo Alvaradas, east of Mitla.

b. Lachiva-gela, a pond in the mountains north of Mitla. Vegetation deciduous mountain forest, mostly oak.



a



b

PLATE 9

a. Xerophilous vegetation of the upper Tlacolula valley. Road Mitla-Matatlán. Cactaceae (*Cereus* sp.), *guaces* (*Leucaena esculenta*), and the imported *arbol del Perú* (*Schinus molle*) prevail.

b. Second-growth forest covers the ruins of Shuyu-wāu (see map 6). A few agaves are the last cultural remains.



a



b

PLATE 10

a. A vault at Monte Alban showing the same technique as the Róvi-yěthuyěsi of Lachatao.

b. Entrance to the vault at the bottom of which surges the permanent water well, called Róvi-yěthu-yěsi (well of the ancient pueblo), near the village of Lachatao (cf. map*).



4



5

PLATE 11

a. The ruins of Shuyu-wāu, east of Yavesia (see map 6), are overgrown beyond recognition. Vestiges of stone wall and big stone idol.

b. Small porphyritic columns in the pine forest of Shuyu-wāu. These columns are quite similar to those of Mitla, but much smaller in size.



a



b

PLATE 12

Pre-Columbian ruins.

a. Vásv-lyōb, in the mountains east of Mitla. A subterranean chamber in the form of a cross. The work has apparently never been finished. The heavy blocks that were to cover the vault are scattered over the way which leads to the quarry.

b. Biliä-did (see map 4), the quarry from which the constructors of the ancient Mitla buildings obtained the rocks. The Indian is sitting on a partly hewn block, still *in situ*.



a



b

PLATE 13

Pre-Columbian ruins.

a. One of the main buildings at Mitla.

b. The Hall of the Monoliths with its tall stone columns at Mitla.



a



b

PLATE 14

a. Ruins of the main wall of defense of the pre-Columbian stronghold of El Fuerte, near Mitla. The ruins were cleared of vegetation and débris in 1925.

b. San Pablo de Mitla. A small Christian chapel on top of the pre-Columbian adobe pyramid.



a



b

PLATE 15

a. Añy-cats, the Lightning Peak, rising nearly 450 meters above the Mije settlement of Totontepec. Traces of an ancient settlement cover the slopes up to the very top.

b. Part of the Mije ruins below Añy-cats, after having been cleared of vegetation. Only crude stone foundations and many artificial terraces exist. The houses themselves, probably, were built of wood and so have left no traces.



a



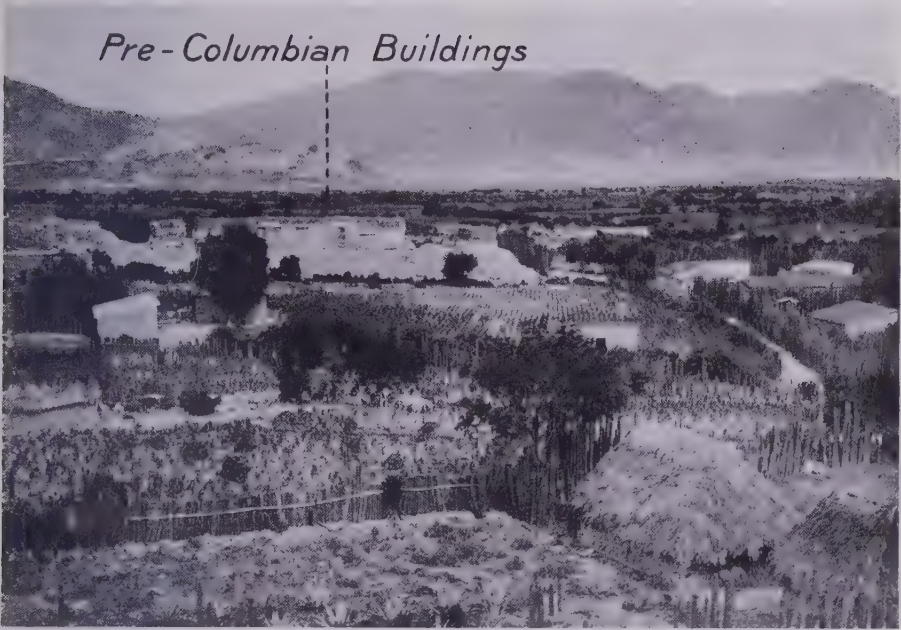
b

PLATE 16

a. View from the pre-Columbian adobe pyramid over the northern part of San Pablo de Mitla. The ancient ruins are surrounded by the dwellings of the modern village.

b. A street in Mitla. A decaying pre-Columbian wall and an Organo hedge take the place of the road fence.

Pre-Columbian Buildings



a



b

PLATE 17

a and *b*. The church of Mitla, built into one of the pre-Columbian palaces.



a



b

PLATE 18

a. The Hacienda de beneficio Cinco Señores, between Lachatao and Yavesía (see map 6). A mining settlement founded in the early nineteenth century. About 1910 it was still inhabited by several hundred people; with the decay of mining it was abandoned. At present second-growth forest is invading it.

b. The ruins of the textile plant of Xia, near San Juan Chicomesuchil (see map O). Close by, a small village had just taken its first steps toward an independent existence when, during the Carranza revolution, the plant was destroyed. The villagers, all of them weavers, thus losing their source of support, returned to the ancient villages from which they had come.



a



b

PLATE 19

a. The ordinary hut of the valley Tzapotecs thatched with corn stalks, probably their oldest type of dwelling.

b. A street in Tule in the valley of Tlacolula. Adobe walls and Colonial tile roofs. The houses are built so as to satisfy the Tzapotecs' desire for privacy, with neither windows nor doors on the street.



PLATE 20

a. House of a Serrano Tzapotec at Lachatao. The walls as well as the roof are covered with shingles.

b. House of a Serrano Tzapotec at Yavesía. The walls are made of stone and adobe. Roof and gable are shingled.

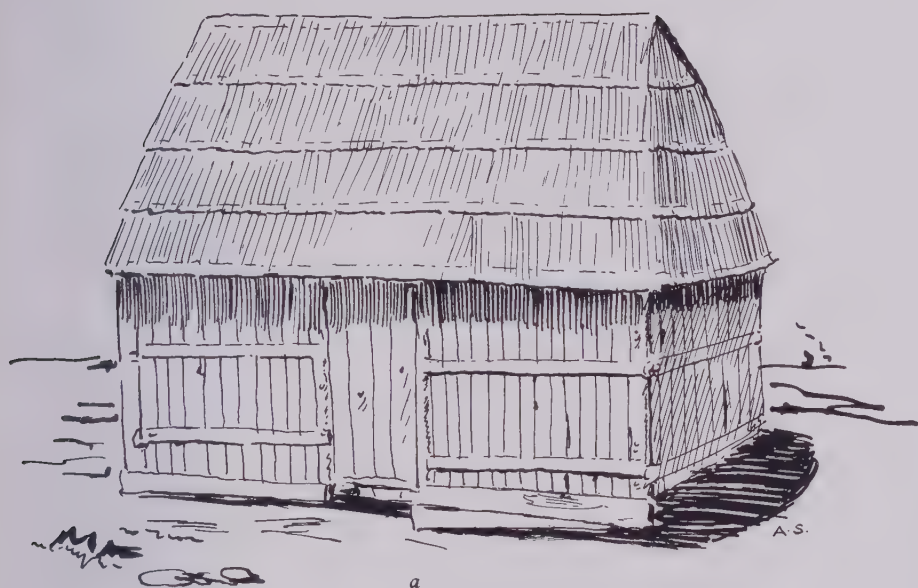


PLATE 21

- a.* Typical Mije log cabin—Ayutla.
- b.* A Mije rancho of the *tierra caliente* of Totontepec.
- c.* A Nahua Indian house; walls of cut stone and roof thatched with corn-stalks.



PLATE 22

a. A group of Tzapotec boys at San Pablo de Mitla. From an early age girls and boys keep apart in their play.

b. Mije Children from the upper *tierra caliente* of Totontepec.



a



b

PLATE 23

a. Valley Tzapotec of Mitla.

b. Mountain Tzapotec of Lachatao. The different headgear and the heavy sandals distinguish them from the valley people.



a



b

PLATE 24

- a.* Mije women and children. All three are dressed in the pre-Spanish *huipil*.
b. Mountain Tzapotec from Yavesía.



a



b

PLATE 25

a. The Tzapotec women of Mitla wear their headcloth in a different and simpler fashion. Like all the women of the valley Tzapotecs, they go barefoot. Hats and sandals are prerogatives of the men.

b. Tzapotec girls from Guelavía in the valley of Tlacolula. They wear their headcloth, which takes the place of a hat among the women, in a turban-like fashion.



a



b

PLATE 26

Valley Tzapotec of Mitla. The raincoat, consisting of a *petate* with a palm-leaf cover, is a Mixtec product.



PLATE 27

a. An old lady salutes the President of Mitla, D. Amador Bautista, by kissing his hand. In recognition of her venerable age, he returns her salute in the same manner.

b. A Tzapotec weaver at Mitla. The loom is of the most primitive type, identical with the one represented in the Codex Mendoza, plate 61, in Kingsborough Collection, vol. 1. Cf. figure below.



a



b



PLATE 28

a. The *yaa* or *temascal* (sweat-house) of the valley Tzapotec (Mitla).

b. Mitla women grinding corn on the *metate* (*metatl*). The procedure has remained unchanged since pre-Columbian times. See figure below from Codex Mendoza, plate 61, in Kingsborough, vol. 1.



a



b



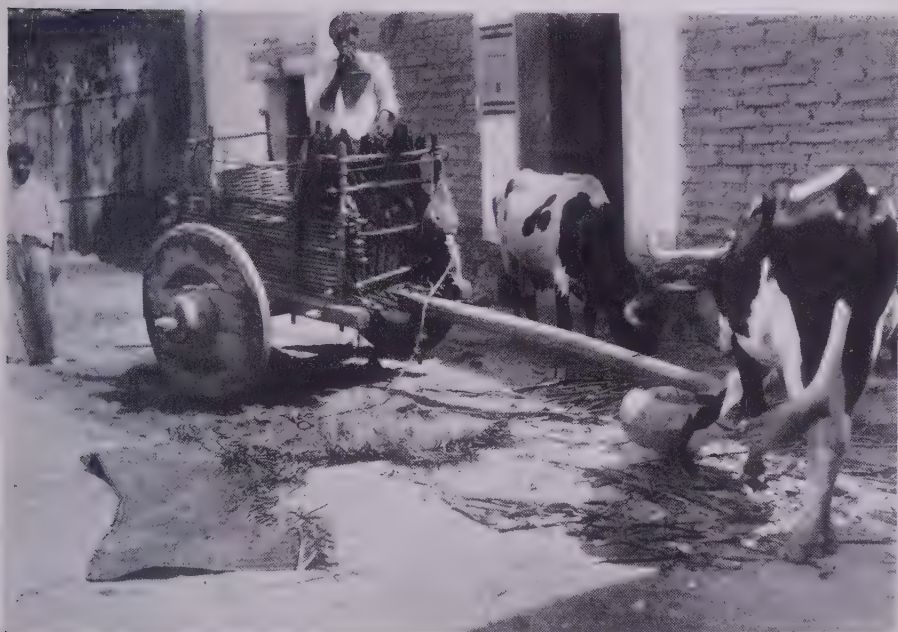
PLATE 29

a. The inefficient wooden plough of the Tzapotecs makes possible only a very superficial ploughing. Note the rigid yoke for the oxen.

b. Mitla type of wagon used for transport of charcoal and staple crops.



a



b

PLATE 30

a. Paraje len gurrál. An ancient *paraje* just on the border of the town of Zaachila (Teozapotlan), south of Oaxaca. Nine persons own lots in this *paraje*. The size of the shares is very irregular.

b. The town of San Juan Chicomesuchil. The subdivision of the *parajes* into extremely small *milpas* has been carried farther in the densely populated districts of the mountain Tzapotec. The irregular field pattern is particularly noticeable because the mountain Tzapotec let natural vegetation grow up on the balks between the different fields.



a



b

PLATE 31

View from the pre-Columbian stronghold El Fuerte toward the south over the fields of San Pablo de Mitla (cf. map 4).

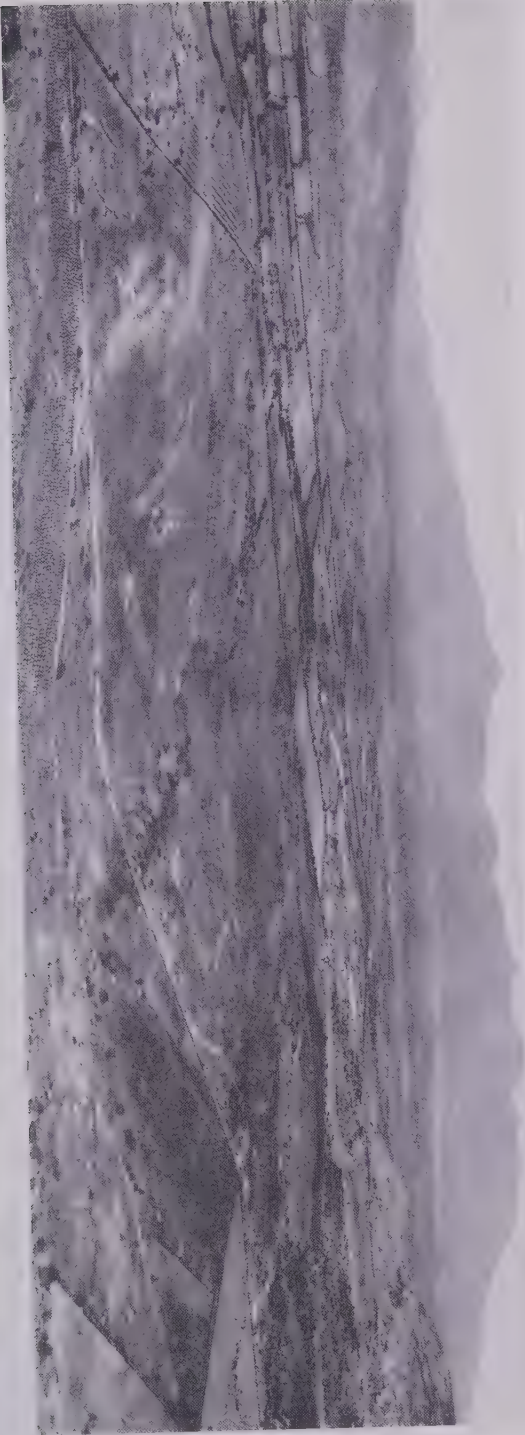


PLATE 32

Fields of the Nahuatl pueblo of Chimalpa, bordering Cuajimalpa. My informant, Ladislao Carillo, 72 years of age, a native of Cuajimalpa, in his youth saw the area now occupied by cornfields covered with needle forest. The border of the forest has been pushed back to where it now stands (sky line at the left of the picture).

In the background at the right appear the mountains of the Otomi.

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[SCHMIEDER] PLATE 32



PLATE 33

a. Santa Catarina Lachatao, a typical settlement of mountain Tzapotec. The dwellings of its inhabitants are all clustered around the church.

b. San Pablo Ayutla, a typical settlement of Mije Indians. The church, the municipality building, the new church, and the large house of Colonel D. Martinez, the leading figure of the entire tribe, form the nucleus of the settlement. The dwellings of the villagers are scattered over the mountains, some as far as 25 kilometers from the church.



a



b

PLATE 34

a. A Mije farm. The log cabin stands almost hidden under a few fruit trees in the center. Around it extends *tierra de aradura*, the owner's best fields, which are permanently under cultivation. On the slope to the left, clearings and second-growth forest are to be seen. The steeper slopes need a period of rest every few years in order to regain their fertility.

b. San Juan Chicomesuchil, a mountain Tzapotec settlement. The house type shows Spanish influence. The Colonial tile roof prevails.



a



b

PLATE 35

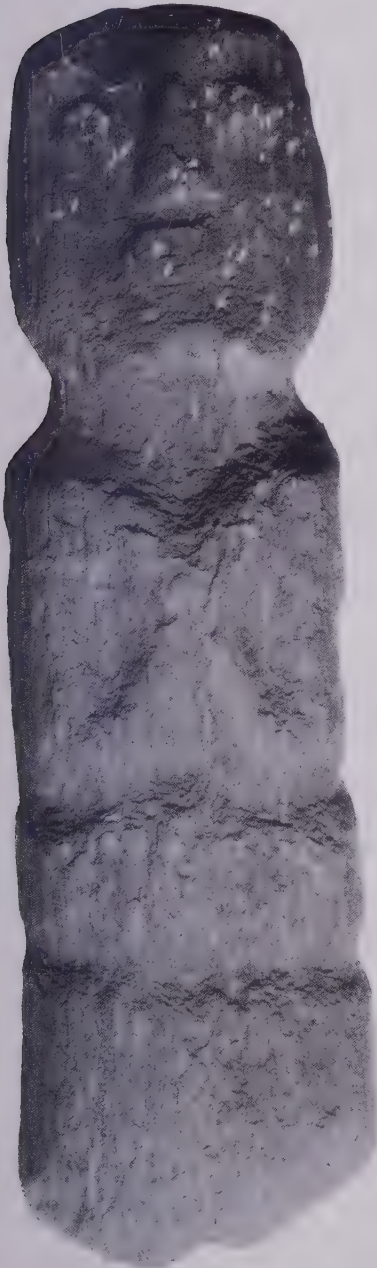
The plaza and main street of the Italian colony, Chipilo, southwest of Puebla. The carefully kept houses and the intelligently working population are in striking contrast to what one sees in the dilapidated Indian villages of the neighborhood.



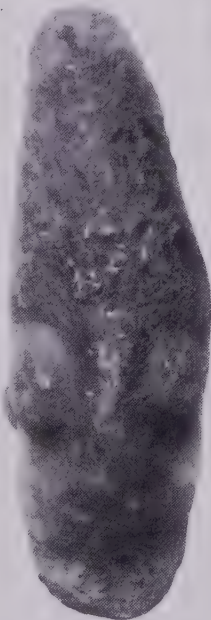
PLATE 36

Stone idols of the Mije Indians of Totontepec, one-half natural size. The central figure was built into the adobe wall above the fireplace of a rancho. The left one was cheerfully given to me by the owners. It had somehow not lived up to the expectations of the proprietors. Its face still carries the traces of a recent severe punishment.

All Mije idols present Archaic features. The forms are adapted to natural boulders. Eyes, nose, mouth, and arms protrude.



a



b



c

PLATE 37

Map of the land of *San Pablo Mitla*.

Original in the Archivo General, Year 1697, Tierras 485. 1. part.

The map gives a good picture of the natural features of the area. It illustrates the great loss of territory that a village may experience: The dotted black line represents the present border line (cf. map 4). The land on the left side of the picture now belongs to haciendas.

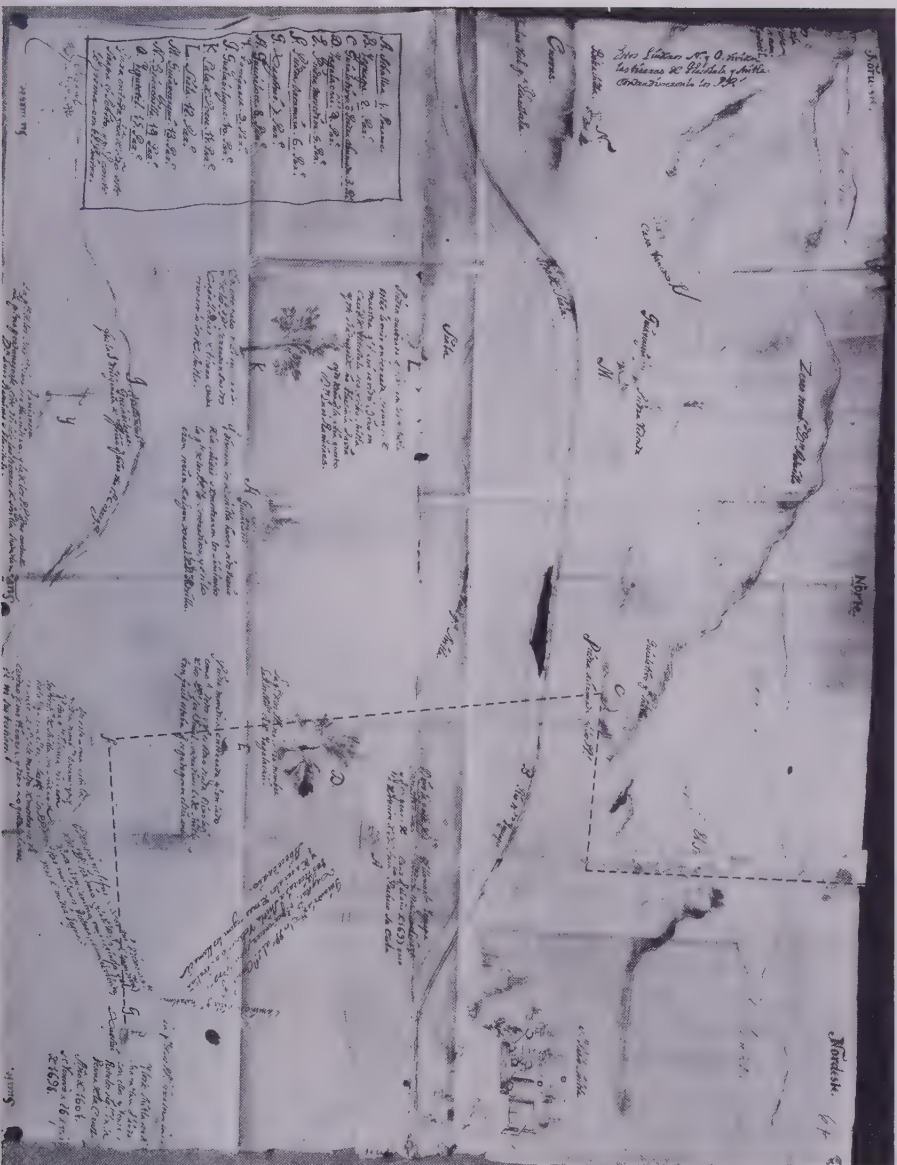


PLATE 38

Map showing the land owned by the pueblo of *San Juan Chicomesuchil* and the *mancomún* land of the pueblos *Santa Catarina Lachatao*, *San Miguel Amatlán*, and *Santa María Yavesía*. In the upper right appears also the pueblo *San Lucas Yatao* of which at present no trace remains. The map is painted on cloth. It carries no date but was used in 1839 in a lawsuit with the neighboring pueblo of *Iztepeji*. The original was donated to the Archivo General in 1886 by the authorities of Lachatao. A true copy was given to the village in compensation.

The original (about 2 m. \times 2 m.) is in vol. 3313, Ramo de tierras, Archivo General de la Nación, México.

PLATE 39

Map of Tzapotec villages *Roayaga* and *Yechecobi*, near Villa Alta. 1755.

Original by Maestro Joachin Perez de Salazar in Archivo General, Tierras, vol. 776.

The map gives evidence of a *paraje* system and shows three abandoned settlements (*pueblo desertados*).

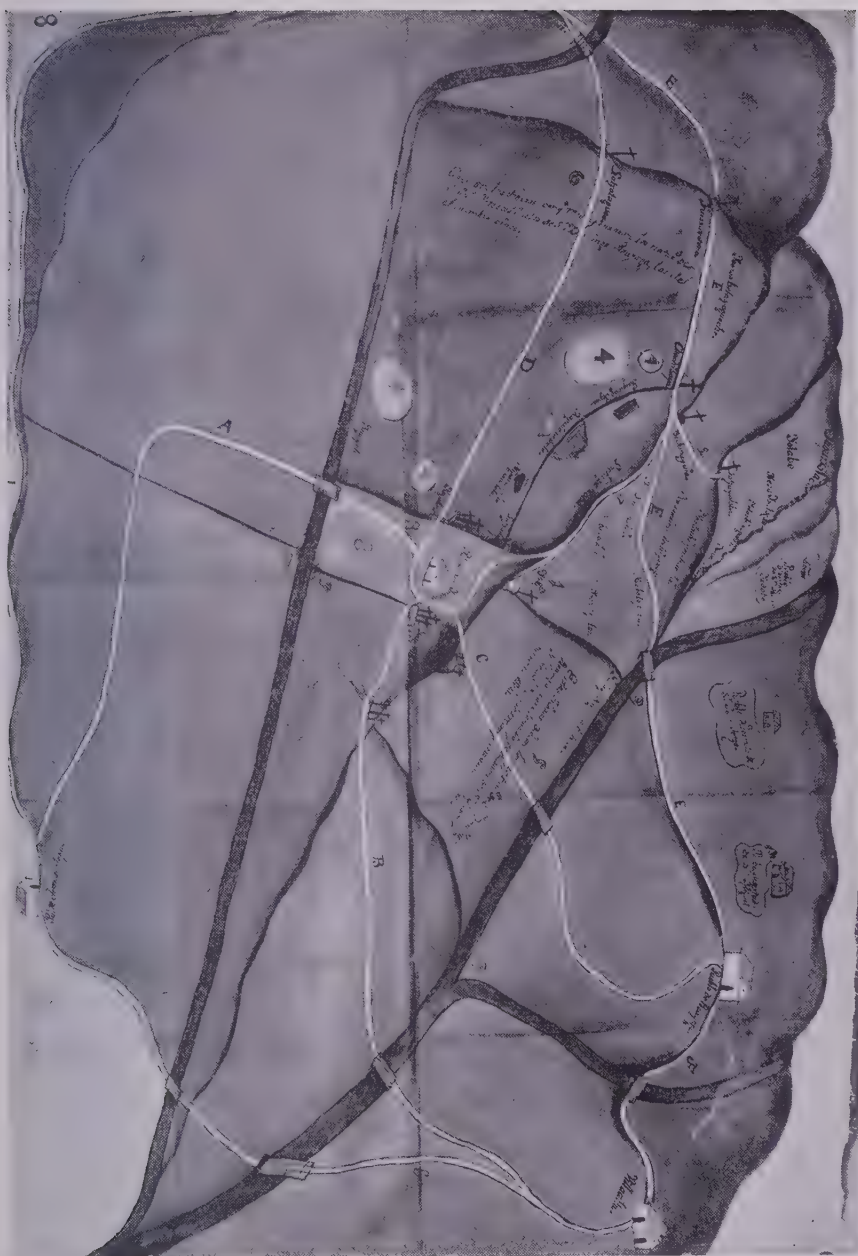


PLATE 40

Mapa de la *Vicaria de Totontepeque de los Mixes* y pueblos anexos, situada en la Provincia de Oaxaca.

1706. Presentado por Fr. Bartolomé Asenio, en un expediente sobre doctrinas y curatos de la Provincia de San Hipólito Mártir del Orden de Predicadores del Valle de Oaxaca.

Original (59 x 43 cm.) in the Archivo General de Indias, Sevilla, Estante 62, Cajón 6, Legajo 27.

The map shows the distribution of Dominican missions in the northwestern part of the Mije territory at the beginning of the eighteenth century.

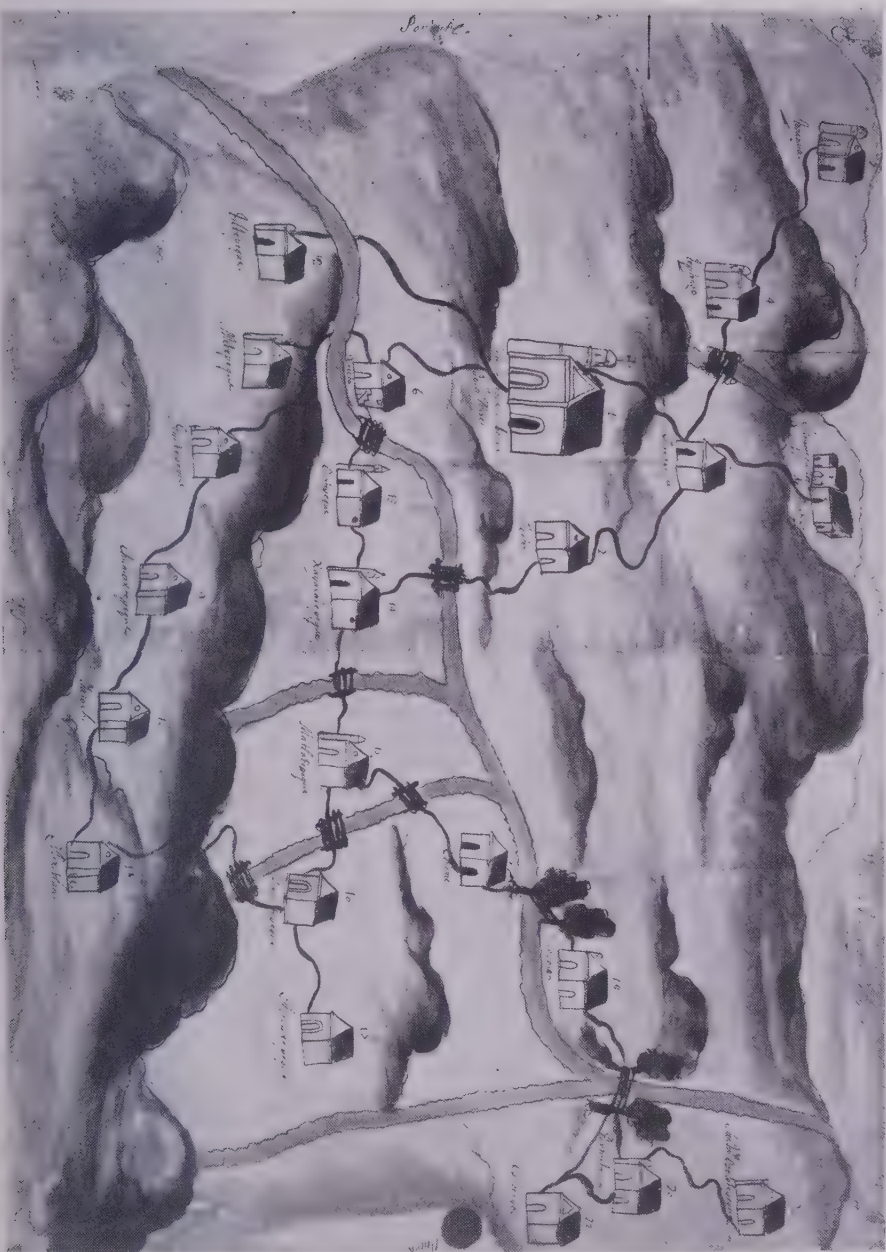


PLATE 41

Mapa de la *Vicaria de Xuquila de los Mixes* y pueblos anexos, situada en la Provincia de Oaxaca.

Also presented by Fr. Bartolomé Asensio, 1709 (cf. plate 40). Original *ibid.*

The map shows the distribution of Dominican missions in the southwest of the Mije territory.

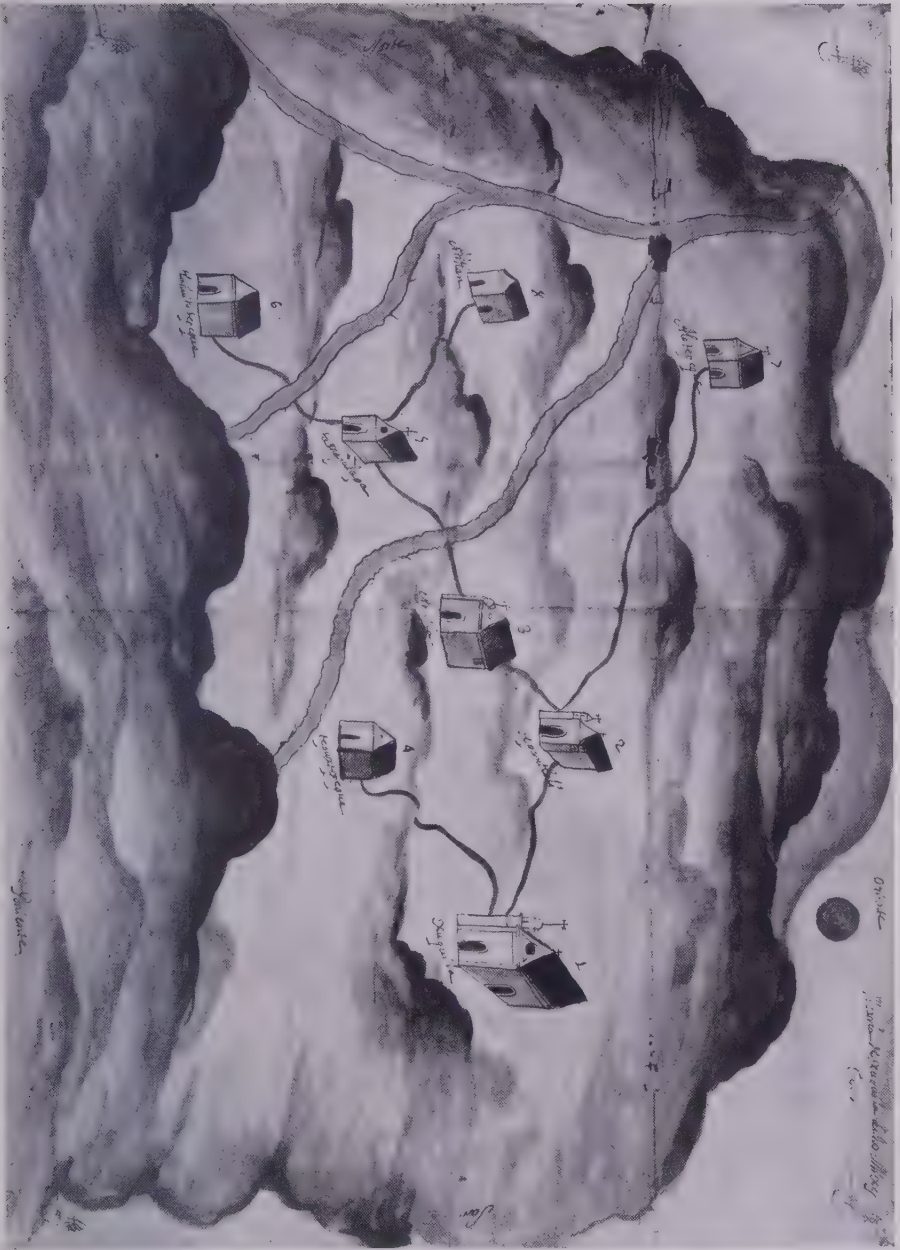


PLATE 42

Codex Cuajimalpa. Plate I. Original in Archivo General de la Nación, Mexico, Tierras, vol. 3684. A.D. 1534.

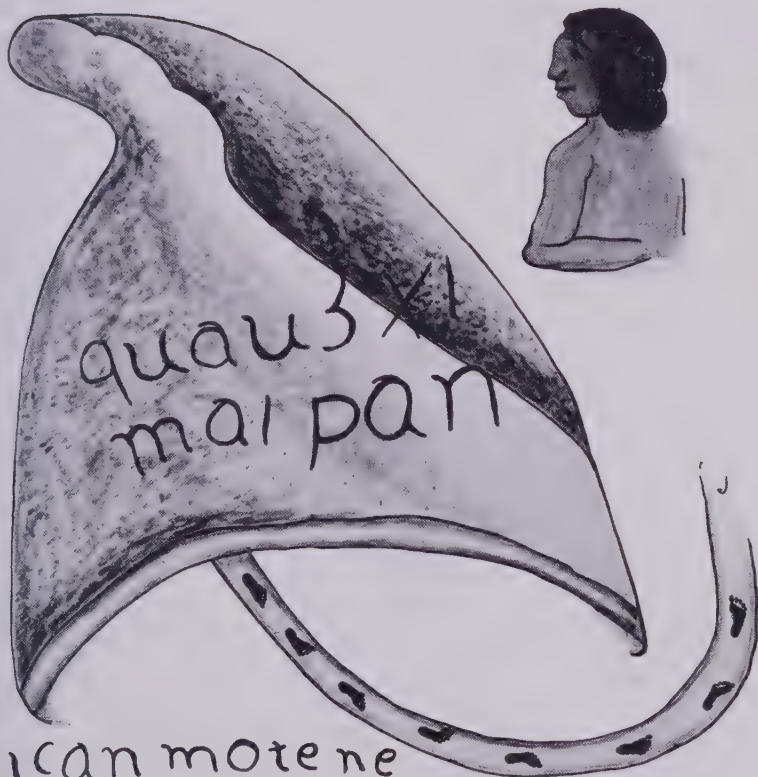
A three-colored primitive map represents the still unpopulated *paraje*, *Quauhximalpan*, "the place where the lumber is cut." A curved train on which human footprints are shown connects the place with the outside.

The lower inscription (an incomplete sentence) says: *Yinican motene ya naltepetl*; "Here is called the lands . . ."

The upper right hand carries the inscription: *Yentec yauh chimalpan*; "Inside lies chimalpan." Chimalpan is now an independent village bordering Cuajimalpa.

The human figure at the upper right may represent the founder of *Cuajimalpa*.

ntec } au3
 { 3imalpan



nican mote ne

ya nalte peti

PLATE 43

Codex Cuajimalpa, plate 3a.

The upper part shows the mountains west of Cuajimalpa, the borderland against the Otomi.

The Aztec inscription below, according to the Mexican interpreter of the Archives, states that the map represents all the lands of Cuajimalpa.

Below seven *parajes* are represented and their qualities explained. The occupants are portrayed. Reading down, the *parajes* are:

- (1) *tlalochpanco*, the even land. The name sounded familiar to various citizens of Guajimalpa, but they were unable to locate it. It would be, probably, only a question of further searching to locate the *paraje*.
- (2) *necocoyan o ce licapan*, place of the damage making trees (?).
- (3) *atlacoyan atlan tlapechco*, the slope where there is water.
- (4) *apipilhuazco soquiatlan tepecuauhtlan*, the mountainous *paraje* where the muddy waters come from. The *paraje* apipilhuazco is still well known (cf. map 3). The blue circle stands for a spring.
- (5) *atliquysayan*, from where the water comes. A blue circle stands for a spring, the blue curve for an irrigation ditch (?). My informants knew nothing about this *paraje*.
- (6) *xavelominotzin*, translated by the Mexican interpreted as San Geronomo (?). No information regarding this *paraje* was obtained.
- (7) *oyametitlan tecolotlan*, place of the firs (*abies*) and owls. No information on this *paraje* was obtained.

It is evident that the plate does not represent, as one might think at first sight, a unit of land split into strips, as shown in map 5. The plate is more likely a registration of different *parajes* belonging to a young village community in the frontier belt of the Nahua Indians against the Otomi.

niz neptocmoc3 cuau3tla
 pe mel yaxca cay galytla
 tilana3 ni al te perico
 au3ximal pan



ti alog3panco

an3e se necocoy
 licapan

allacoyan
 a tian ila de3eo

api3u
 ascosoqui
 alian tepe
 cuau3llan

all3guisagan

xaxelom3no3ym

ogame titlan tecolollan

PLATE 44

Codex Cuajimalpa, plate 3b.

nican nextoc nestimani yniocotea tlal altepehuaque ynican ypan ynin altepetl coauhximalpa oquimo tzintili tetecyo.

"Here are before the view the lands of the citizens of the pueblo here on the settlement of Cuajimalpa came to found it our Lord."

The figures at the left are hieroglyphic names of the occupants of the enumerated *parajes*.

cuauht lapanaloyan man yepual mecatl tlali.

"Where the lumber is cut there are 60 cordeles land. 1 cordel equals 414 sq. meters."

This is the *paraje* on which the pueblo now stands.

Tetl yztacan mani nauh pual mecatl altepetlalquitl.

"On the white soil there are 40 cordeles the wealth of the pueblo."

No information as to this *paraje* was obtained.

Coatitlan atzoyapan mani chicue pual mecatl.

"In the place of the snakes and the chaparral are 160 cordeles."

This *paraje*, near San Bartolo, is now outside the village boundaries.

texayacatitlan mani ynyntlal altepehuaque.

In the place named stone face are the lands."

No information on this *paraje* was obtained.

Colihucan mani ytlataltepehuaque nesotoc nestimani nenen coaxochtli ycampa onasi neslo.

"In the place where one turns are the lands of the citizens of the pueblo the limits are visible."

This plate represents only the continuation of plate 3a, as record of the *parajes* occupied by the people of Cuajimalpa.

nica n nes loc nes li mani ynio
 cotea tlalaltepezuaque ynican
 ypan yninallepeil coau3xi
 mal padquimohin lili tolecyo



Cuau3ilapanaloyan
 man yepualmecatllali



tezlystacanmaninau3
 puatmecatllalte perlaquiti



Coatitlanahoyapanma
 nic3icuepualmecall



texajacalillanmani
 yn yn tlalaltepezuag

colizucanmani yilalaltepezu
 aque nes loc nes yimaninenem
 icba xoc3 lili yn capa on asinesio

PLATE 45

Codex Cuajimalpa, plate 17a.

Hieroglyph of a single *paraje* which, according to the inscription, “*ye nis memetla*” (here is the *paraje* *memetla*) was called *Memetla*. The picture represents an agave plant (*metl* in Aztec) and a *capulín* (*Rhamnus humboldtianus* Roern.).



Enis
memella

PLATE 46

Codex Cuoajimalpa, plate 8b.

nis onepeuh tlatocayotl oqui moyanquicapeh hualti ton cacapiel quauhtentzin.

“Here began the rule which anew established Don Gabriel Quauhtentzin.”

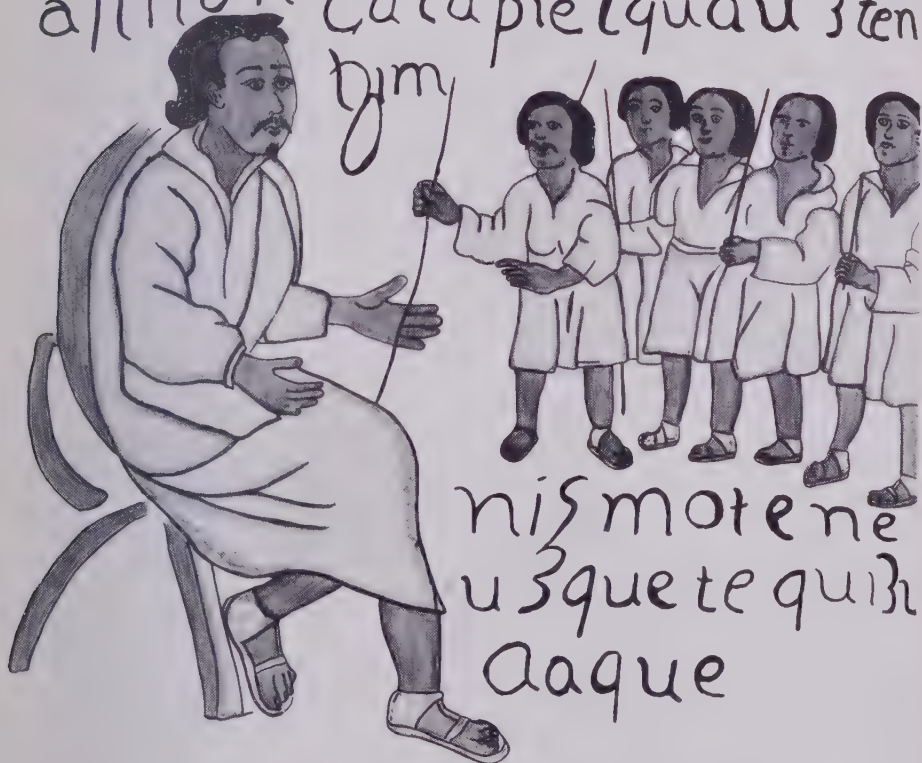
The picture shows the transmission of government. ‘Ton Cacapiel’ seated on the chair hands the batons, symbols of the mandatory power, to the newly elected village authorities.

nis moteneuhque tequihlaaque.

“Here are appointed the new government officials.”

nisonpe u³ tla toca ³otl
 oquimo ³anqui capes ³u
 altiton ³acapie lquau ³ten

bym



nismotene
 u³quete quib
 aaque

PLATE 47

Map of *Cuajimalpa* dated Jan. 31, 1799.

Original in Archivo General, Mexico, *Ramo de tierras*, vol. 3684.

The map shows the development of Cuajimalpa and the encroachment of ranchos and haciendas on land once occupied by the villagers.

Fig. 6. Part of the *lienzo* of Chicomesuchil (cf. note 59) showing the conquest of the village by the Spaniards.



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